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# Substantive Requirements Compliance Document, Honeywell Universal Oil Products Site NTCRA, East Rutherford, NJ

Prepared for

# Honeywell

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# Acronyms and Abbreviations

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AOC	area of contamination
ARAR	applicable or relevant and appropriate requirement
BMP	best management practice
CAMU	corrective action management unit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DPCC	discharge prevention, containment, and countermeasure
EE/CA	engineering evaluation/cost analysis
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
gpm	gallons per minute
Honeywell	Honeywell International Inc.
LDR	land disposal restriction
MHW	mean high water
N.J.A.C.	New Jersey Administrative Code
NAAQS	National Ambient Air Quality Standards
NCP	National Contingency Plan
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
NJMC	New Jersey Meadowlands Commission
NJPDES	New Jersey Pollutant Discharge Elimination System
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NTCRA	Non-Time-Critical Removal Action
NSPS	New Source Performance Standards
NWP	Nationwide Permitting
OU	operable unit
PCB	polychlorinated biphenyl
phragmites	<i>Phragmites australis</i>
ppm	parts per million
PTE	potential-to-emit
RCRA	Resource Conservation and Recovery Act

SE&SC	soil erosion and sediment control
SPCC	spill prevention, control, and countermeasures
SPPP	Stormwater Pollution Prevention Plan
SVOC	semivolatile organic compound
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
TWA	Treatment Works Approval
UHC	underlying hazardous constituents
UOP	Universal Oil Products, Inc.
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UTS	universal treatment standards
VOC	volatile organic compound

# Project Description

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## 1.1 Introduction

This Substantive Requirements Compliance Document, prepared for Honeywell International, Inc. (Honeywell) by CH2M HILL, outlines the applicable federal, state, and local regulations and permitting requirements for the proposed U.S. Environmental Protection Agency (EPA)-defined Non-Time-Critical Removal Action (NTCRA) to be conducted in the western corner of Operable Unit (OU) 2 (the Streamlands) of the Universal Oil Products, Inc. (UOP), site in East Rutherford, New Jersey (Figure 1). The NTCRA primarily consists of removing impacted sediment from the site, as described in Section 1.2.

This site was listed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List on September 1, 1983 and assigned site Number NJD002005106. It is being remediated under an Administrative Settlement Agreement and Order on Consent (CERCLA Docket No. 02-2009-2008) effective September 27, 2009 between the EPA and Honeywell.

Regulations are summarized and paraphrased in this document with the intent that the actual regulations will be reviewed and consulted for compliance during planning and implementation. Final remedial designs will need to incorporate and address regulatory requirements accordingly. If there are any discrepancies between this document and the actual regulations, the actual regulations shall take precedence. The construction manager will be responsible for verifying regulatory compliance during NTCRA implementation.

The provisions for each applicable or relevant and appropriate requirement (ARAR) associated with the planned removal action at the UOP Streamlands site are presented in Table 1 (presented at the end of this section). This is followed by the identification of means through which compliance is demonstrated. The required content of the engineering evaluation/cost analysis (EE/CA), the process of evaluating removal action alternatives, and the requisite steps to obtaining EPA approval to move forward with the action will in themselves result in compliance with many of the substantive provisions (for example, wetland impacts, project necessity, and the sequential regulatory preference of avoidance, minimization, mitigation). The EE/CA was submitted to EPA in April 2011 (CH2M HILL, 2011).

### 1.1.1 Site Description

The UOP site is located near the intersection of Route 17 and Paterson Plank Road, in the Borough of East Rutherford, Bergen County, New Jersey. Major features of the UOP site are shown in Figure 1. The UOP site encompasses approximately 74 acres, of which a portion, referred to as the Uplands, or OU1, is developed land that has been subjected to filling with miscellaneous earthen fill, municipal solid waste, and rubble. The Uplands consists of approximately 30 acres and ranges from 4 to 9 feet above mean sea level. An active New Jersey Transit right-of-way (the Pascack Valley Line) runs north-south through a portion of the Uplands.

The area referred to as the Streamlands, or OU2, is about 44 acres, of which approximately 30 acres are designated as wetlands. OU2 is composed of marshlands and man-made stream channels, including the Ackermans Creek system, and is bisected by Murray Hill Parkway. A former wastewater lagoon is located on the western side of the Streamlands. A portion of the rail line associated with the New Jersey Sports and Exposition Authority's Meadowlands Railroad and Roadway Improvement Project was constructed at the site from 2006 to 2008. This rail line runs east-west through the northern section of the Streamlands and crosses the former wastewater lagoon. The channel and channel segments present onsite are shown in Figure 2.

The channel and wetland portions of the Streamlands are tidally influenced and drain to the east during ebb tides. Ackermans Creek drains into Berrys Creek, which is considered a portion of the Ventron/Velsicol National Priorities List site. The Berrys Creek Study Area encompasses 6.5 miles of Berrys Creek, tributaries, adjacent wetlands, and the Berrys Creek canal. Portions of the UOP Streamlands are considered part of the Berrys Creek Study Area.

Land use surrounding the UOP site is primarily commercial and industrial. Immediately to the north are the Matheson Gas Products site, an automotive storage lot, the former Meadowlands Plating & Finishing site, and a motel. Berrys Creek and tidal marshes are to the east, and Ackermans Creek and commercial properties are to the south. The former Becton Dickinson site (a former medical instrument and thermometer manufacturer) and other commercial properties are west of Route 17. The closest residential area is approximately 0.25 mile west of Route 17.

### Site History

The Uplands were developed in 1932 by Trubeck Laboratories, which built and operated an aroma chemicals laboratory. Trubeck began operating a solvent and waste chemical recovery facility in 1955. In 1956, Trubeck constructed a wastewater treatment plant, and in 1959 began using two unlined wastewater lagoons. UOP, a division of Signal Companies, acquired the property and facilities in 1960. The wastewater treatment plant and wastewater lagoons ceased operation in 1971, when UOP connected to the East Rutherford sanitary sewer system. All remaining operations at the facility were terminated in 1979. In 1980, all structures were demolished except for concrete slabs and a pedestrian bridge over the New Jersey Transit tracks. The contents of the two wastewater lagoons, including the dividing wall between them, were removed under an interim remedial measure and transported offsite for disposal in 1990. The lagoon area was dredged in 2008 during an Interim Remedial Measure as part of the Meadowlands Railroad and Roadway Improvement Project (Louis Berger, 2008). During the 2008 event sediment was removed along the right of way of the new rail spur where it crossed the lagoon and adjacent stream channels.

Historical activities in the Uplands and at neighboring industrial facilities resulted in historic releases of contaminants to the environment. The current remedial investigations indicates that sediment at the UOP site is contaminated by volatile organic compounds (VOCs)—including chlorinated benzenes, trichloroethene, vinyl chloride, and toluene—polychlorinated biphenyls (PCBs), and metals, including mercury and chromium. .

The contaminants of particular concern that may have resulted from offsite sources are PCBs, mercury and chromium. There is no history of mercury and chromium having been used in industrial processes at the UOP facility.

## 1.2 Project Overview

The primary objective of the NTCRA is to remove contaminated sediments and soils from the lagoon (eastern and western portions); the eastern and southern lagoon berms; the surrounding northern and eastern channels; the eastern channel meander, the southern ditch, and the western “L parcel” (Figure 2). Specifically, the remedial action will consist of the following components (Figure 3):

- **Site preparation.** This will include surveying, implementing erosion and sediment control measures, removing *Phragmites australis* (phragmites), and creating access to the berms. Because the remedial action will require using heavy equipment and vehicles, such as long-reach excavators, in the berm area, a temporary stone ford consisting of geotextile, stone, and a Dura-Base mat will be installed from the eastern lagoon to the shore side.
- **Dewatering Excavation Areas.** The lagoon and stream channels will be dewatered prior to excavation. Initial work will involve draining the area by using a tide gate to stop tidal flow into the western marsh from east of Murray Hill Parkway, and allowing the channels to free drain to Berrys Creek. Remaining water in the lagoon that cannot gravity drain to Ackermans Creek will be pumped off using a floating suction so as not to entail any sediment material. The discharge will be to an energy dissipation apron on Ackermans Creek east of the confluence of the Eastern Meander Channel, and will be monitored in accordance with surface water quality discharge criteria. Lagoon water quality samples have shown “not detect” levels of all UOP contaminants of concern. Remaining standing water within the lagoon and Ackermans Creek stream channels will be collected with strategically placed sumps and submersible pumps for discharge to the proposed on-site 300 gpm Water Treatment Plant. Provision for the management of up gradient stormwater flows through the UOP NTCRA remedial areas will be accomplished with the installation of temporary flumes (i.e., Portadam sections) or large diameter plastic corrugated stormwater pipe placed within the channels. The twin 48-inch diameter RCP stormwater pipelines that currently discharge into the Northern Channel will be temporarily extended into the Northern Channel to allow construction of a temporary road crossing contiguous to the NJ Transit rail bed.
- **Excavation.** Contaminated sediment and soils will be removed from the lagoon, berms, stream channels, southern ditch, and western “L parcel” using equipment such as long-reach excavators in the stream areas in conjunction with low ground pressure dozers to facilitate loading into crawler hauler trucks. Sediment in the channels will be mechanically removed by working from the upland edges or lagoon berms. Additional work will include residuals-management activities using turbidity and soil erosion controls, and performing confirmation sampling and analysis of remediated areas.
- **Channel Restoration.** Following the removal of impacted sediments and soils from the Lagoon berms and with the addition of the UOP NTCRA “L Parcel” area located contiguous to the western bank of the lagoon and forming the southern bank of the Northern Channel, it is proposed that following the removal of the impacted soil that only a 20’ strip running north/south and contiguous to the NJ Transit rail bed be backfilled with clean, compacted material and returned to pre-excavation elevations.

The balance of the North Channel, western “L parcel”, lagoon and streambed excavated areas would be backfilled with a clean coarse sand to serve as a benthic substrate material. The area of the Northern Channel immediately east of the twin 48-inch diameter RCP stormwater pipelines will have either EnviroGrid GeoCell EGA-40G/aggregate filled or Fabriform concrete bank stabilization mats strategically placed for scour protection. These installations are designed to withstand the higher pipe discharge velocities from the upland stormwater catchment area and the Lowe’s parking lot runoff.

- **Sediment and soils preparation and treatment.** To meet the offsite waste disposal criteria, the excavated sediment and soil will be transferred to the soil/sediment containment pad for material handling and possibly treatment. The containment pad will consist of several partitions or bins for batch processing of approximately 400 cubic yards in each bin. Before material handling begins, a representative sampling will be conducted from each batch of soil/sediment placed in each bin for hazardous waste and PCB waste characterization. To meet the EPA paint filter test prior to offsite disposal, the saturated excavated sediment will be allowed to slack or air dry and, if necessary, will be mixed with a pozzolanic or desiccation material (ZapZorb super absorbent polymer, Portland cement, sawdust, or other material) to aid the drying process.
- **Wastewater and site stormwater treatment.** Collected lagoon dewatering, excavation water, and collection system runoff from the soil/sediment containment pad will be treated by a temporary treatment system to meet the NJPDES surface water quality standards for discharge to Ackermans Creek.
- **Transportation and disposal.** Following drying and waste classification testing, the sediment, soil, segregated debris, and organic materials will be transported by a licensed waste hauler to a Honeywell- and EPA-approved disposal facility. The treated excavated sediment and soil materials will be transported to a hazardous or nonhazardous waste disposal facility, based on the materials’ waste classification. In addition, certain sediment and soil with PCBs greater than 50 parts per million (ppm) will be sent to a Toxic Substances Control Act (TSCA)-permitted disposal facility.

This description of the removal action is based on the design completed through 60 percent. Further refinement of the design may occur during final design.

## 1.3 Regulatory Compliance at CERCLA Sites

Actions taken at Superfund sites must meet the mandates of CERCLA as provided for in the National Contingency Plan (NCP). This requires that remedial actions protect human health and the environment, comply with or waive ARARs, be cost-effective, and use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

The hazardous waste regulations promulgated under the Resource Conservation and Recovery Act (RCRA), the PCB remediation waste requirements under the TSCA, the wastewater discharge and wetlands protection requirements under the Clean Water Act (CWA), and air emission limits under the Clean Air Act (CAA) are considered ARARs, as well as many other regulations.

Onsite remedial actions performed in compliance with CERCLA need comply only with substantive or technical aspects of ARARs, not the corresponding administrative requirements (CERCLA Section 121(e)). That is, permit applications and other administrative procedures such as administrative reviews and reporting and recordkeeping requirements are not considered ARARs for action *conducted entirely onsite*. Offsite actions must comply with all legally applicable requirements both substantive and administrative. Examples of offsite actions include shipping hazardous waste to commercial treatment, storage, and disposal facilities and wastewater discharges to publically owned treatment works or offsite receiving streams. For instance, this means hazardous waste manifesting and record keeping requirements must be followed for offsite disposal actions from Superfund site cleanups.

State and local agencies may impose exclusive (that is, no federal counterpart) or more-stringent requirements than EPA. This document identifies state requirements considered to be applicable to this project. State and local agencies will be consulted to learn if there are additional legally enforceable requirements to be considered.

As discussed above, according to CERCLA law, onsite actions must comply with the substantive aspects of ARARs, not with the corresponding administrative requirements. Definitions of substantive and administrative requirements (EPA, 1988) are as follows:

*Substantive* requirements are those requirements that pertain directly to actions or conditions in the environment. Examples of substantive requirements include quantitative health- or risk-based restrictions upon exposure to types of hazardous substances (e.g. MCLs establishing drinking water standards for particular contaminants), technology-based requirements for actions taken upon hazardous substances (e.g. incinerator standards requiring particular destruction and removal efficiency), and restrictions upon activities in certain special locations (e.g., standards prohibiting certain types of facilities in floodplains).

*Administrative* requirements are those mechanisms that facilitate the implementation of the substantive requirements of a statute or regulation. Administrative requirements include the approval of, or consultation with administrative bodies, consultation, issuance of permits, documentation, reporting, recordkeeping, and enforcement. In general, administrative requirements prescribe methods and procedures by which substantive requirements are made effective for purposes of a particular environmental or public health program.

Given these definitions, payment of a permit fees for onsite work is considered an administrative requirement and therefore is not applicable to this project. However, some fees may be applicable if related to offsite disposal or annual hazardous waste quantity reporting.

### 1.3.1 Federal Regulatory ARARs

The following is a list of federal regulations that would typically be applicable to this type of project. Section 2 of this document further details the ARARs associated with each of these requirements.

- Section 404 of the CWA and Section 10 of the Rivers and Harbors Act

- Section 402 of the CWA - National Pollutant Discharge Elimination System (NPDES)
- The Endangered Species Act (ESA)
- Section 106 of the National Historic Preservation Act (NHPA)
- PCB Remediation Waste Regulations
- Spill Prevention, Control and Countermeasures Requirements (Oil Pollution Act of 1990)
- CERCLA Off-Site Rule
- Public Involvement in CERCLA NTCRA

### **1.3.2 State and Local Regulatory ARARs**

The following is a list of state and local regulations that would typically be applicable to this type of project. Section 3 of this document further detail the ARARs associated with each of these requirements.

- Waterfront Development Act
- Flood Hazard Area Control Act
- Tidelands Act
- NJPDES General Permits
  - Construction Dewatering Discharge General Permit
  - Discharge to Surface Water for Remediation Clean-up General Permit
  - Stormwater Pollution Prevention for Construction Activities
- Treatment Works Approval
- New Jersey Division of Wildlife, Bureau of Freshwater Fisheries
- Hazardous Waste Management
- Dust
- Odor
- Spill or Discharge Notification
- Air Emissions Requirements
- Bergen County Soil Conservation District Soil Erosion and Sediment Control (SE&SC) Plan Certification
- New Jersey Meadowlands Commission Zoning Rules

**TABLE 1**  
Substantive Requirements Compliance Summary  
Universal Oil Products Non-Time-Critical Removal Action  
East Rutherford, New Jersey

Agency	ARAR	Requirement	Requirement Compliance Measure	Future Regulatory Deliverable(s)	Agency Point of Contact
<b>Federal</b>					
USACE	Section 404 of the CWA/Section 10 of the Rivers and Harbors Act	<p>Wetland delineation</p> <p>Avoid impact, minimize impact, mitigate for impact/wetland loss</p> <p>Near normal downstream flows must be maintained</p> <p>Affected areas must be restored to preconstruction elevations, to the extent practicable.</p>	<p>Project necessity documented through the approval of the EE/CA</p> <p>Wetland delineation completed with submission of Multi-Permit Application for the Meadowlands Sports Complex Rail Spur; Reference delineation to EE/CA</p> <p>No net wetland loss expected; therefore, no mitigation required</p>	N/A	Chris Mallory Chief, Western Permits Section United States Army Corp of Engineers New York District Room 1937 26 Federal Plaza New York, NY 10278-0090 (917) 790-8411
	Section 402 of the CWA - NPDES	Point source discharges into waters of the US must meet discharge limitations set by the state	Discharge limitations for this site are set by NJDEP; see substantive requirement compliance measures for NJDEP Division of Water Quality Bureau of Surface Water Permitting	SPPP	
	Endangered Species Act	Mitigation would be needed for adverse impact to endangered species	No endangered species were identified at the UOP site; therefore, no mitigation is required	N/A	
	Section 106 of the National Historic Preservation Act	Mitigation would be needed for adverse impact to historic properties	No historic properties were identified at the UOP site; therefore no mitigation is required	N/A	
USEPA	Toxic Substance Control Act (TSCA)	Direct proper and safe disposal, storage and remediation of PCBs and PCB items	Development of Sampling and Analysis Plan (sampling to occur before mixing with drying or other agents); design sediment/soil containment pad in accordance with storage requirements; remediation wastes with greater than 50 ppm PCB concentration will go to a TSCA-permitted landfill for disposal.	Sampling and Analysis Plan	Jim Haklar US Environmental Protection Agency Region II TSCA Raritan Depot 2890 Woodbridge Avenue, Building 10, MS105 Edison, NJ 08837-3679
	Spill Prevention, Control and Countermeasures (Oil Pollution Act of 1990)	Prevent discharges of oil into navigable waters	If applicable (based on petroleum storage at site), secondary containment will be implemented as needed and spill kits set up around the site. An SPCC Plan will be developed and signed by a registered professional engineer licensed in the State of New Jersey.	SPCC	Doug Tomchuck US Environmental Protection Agency New Jersey Remediation Branch Emergency and Remedial Response Division 290 Broadway, 19th Floor New York, New York 10007-1866
	CERCLA Offsite Rule	Direct proper and safe disposal of CERCLA remediation wastes	Coordination with EPA to determine what disposal facility is appropriate for wastes generated at the site.	N/A	Doug Tomchuck US Environmental Protection Agency New Jersey Remediation Branch Emergency and Remedial Response Division 290 Broadway, 19th Floor New York, New York 10007-1866
	Public Involvement in CERCLA NTCRA	Inform and educate public and surrounding communities	Maintain information repository and issue public notice(s) as required	Community Relations Plan	Doug Tomchuck US Environmental Protection Agency New Jersey Remediation Branch Emergency and Remedial Response Division 290 Broadway, 19th Floor New York, New York 10007-1866

**TABLE 1**  
Substantive Requirements Compliance Summary  
Universal Oil Products Non-Time-Critical Removal Action  
East Rutherford, New Jersey

Agency	ARAR	Requirement	Requirement Compliance Measure	Future Regulatory Deliverable(s)	Agency Point of Contact
<b>State</b>					
NJDEP LURP	NJDEP Land Use Permits Waterfront Development Permit (WFD) Flood Hazard Area Permit (FHA)	Protect sensitive areas  Wetland delineation  Mitigate for wetland loss  Protect threatened and endangered species  Protect cultural resources	Project necessity documented through the approval of the EE/CA; Protections mandated through construction documents  Wetland delineation completed with submission of Multi-Permit Application for the Meadowlands Sports Complex Rail Spur; Reference delineation to EE/CA  No net wetland loss expected, therefore no mitigation required  Post-removal restoration activities are addressed in the construction documents. Seeding will be conducted to minimize erosion. Removal areas with standing water will populate naturally with recruitment from plants in adjacent wetland. Monitoring will be conducted to confirm that revegetation has occurred. Given the relatively low quality of wetlands, the opportunity and ability to create a higher value wetland in this one location is limited.  No listed threatened and endangered species were identified within the project area and so impacts to these species are unlikely.  The project area contains no archaeological or architectural resources that have been listed, or determined eligible for listing, in the State or National Register of Historical Places.	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP Bureau of Tidelands	Tidelands Conveyance, Tidelands License, Grant or Lease	Understand Ownership	There are no permanent structures proposed within scope of project. In addition, tidelands ownership confirmed as part of Meadowlands Sports Complex Rail Spur.	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP Division of Water Quality, Bureau of Surface Water Permitting	NJPDES General Permit Construction Dewatering Discharges	Prevent pollution to surface water/receiving streams	Implement best management practices (BMPs) and adhere to New Jersey Water Quality Standards	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP Division of Water Quality, Bureau of Surface Water Permitting	NJPDES General Permit Discharge to Surface Water for Remediation Cleanup	Prevent pollution in surface water/receiving streams	Prepare and implement Surface Water Discharge Monitoring Plan and adhere to New Jersey Water Quality Standards	Surface Water Discharge Water Monitoring Plan	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP Division of Water Quality, Bureau of Nonpoint Pollution Control	New Jersey Pollution Discharge Elimination System (NJPDES) General Permit - Construction Activities Stormwater	Prevent pollution to surface water/receiving streams from stormwater	Prepare and implement Stormwater Pollution Prevention Plan (SPPP).	SPPP	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP Division of Water Quality, Bureau of Financing and Construction Permits	Treatment Works Approval	Protect waters of the state by preventing the entry of increased pollutants from inadequate facilities.	Design and construct water treatment system in accordance with substantive technical requirements set forth in N.J.A.C. 7:14A-22-23.	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP Division of Wildlife, Bureau of Freshwater Fisheries	Water Lowering Permit	Protect fish, turtles and other aquatic biota from any adverse effect resulting from lowering water bodies	Develop a Water Lowering Plan	Water Lowering Plan	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028

TABLE 1

Substantive Requirements Compliance Summary  
 Universal Oil Products Non-Time-Critical Removal Action  
 East Rutherford, New Jersey

Agency	ARAR	Requirement	Requirement Compliance Measure	Future Regulatory Deliverable(s)	Agency Point of Contact
<b>State (Continued)</b>					
NJDEP, Bureau of Enforcement and Investigations	Hazardous Waste Management (RCRA)	Regulates waste identification, tracking, shipping, treatment, disposal and recordkeeping	Properly dispose of wastes as RCRA toxicity characteristic hazardous waste and TSCA PCB waste, as applicable; develop and follow Sampling and Analysis Plan; prepare waste approval packages (profiles), as necessary, before offsite disposal of waste	Sampling and Analysis Plan	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP, Air Quality Permitting Program, Bureau of Air Permits	Dust	Prevent dust (particulate matter) from becoming injurious or interfering with the life of another property owner or prohibiting the enjoyment of that property	Implement dust suppression (i.e., watering of roads) and conduct particulate monitoring	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP, Air Quality Permitting Program, Bureau of Air Permits	Odor	Prevent excessive odor from becoming injurious or interfering with the life of another property owner or prohibiting the enjoyment of that property	Implement Air Sampling and Monitoring Plan to ensure that excessive odors do not migrate offsite	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP, Bureau of Release Management	Spill or Discharge Notification	Report any discharges of hazardous substance	Report any discharges of hazardous substance or surface water criteria non-compliance within 15 minutes; follow up with written report	N/A	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
NJDEP, Air Quality Permitting Program	Air Emissions Requirement	Protect air quality	Obtain preconstruction permits, if necessary; develop and implement Air Sampling and Monitoring Plan	Air Sampling and Monitoring Plan	Gwen Zervas Case Manager New Jersey Department of Environmental Protection 401 East State Street PO Box 420, Mail Code 401-05-S Trenton, New Jersey 08625-0028
<b>Local</b>					
Bergen County Soil Conservation District	SE&SC Plan Approval	Prevent soil erosion and sedimentation	Prepare and implement SE&SC Plan	SE&SC Plan	Angelo Caruso, District Manager (201) 261-4407
New Jersey Meadowlands Commission	Land Use Management Permit, Zoning Certificate	Understand impact on Meadowlands	Project necessity documented through the approval of the EE/CA	N/A	Allison Koterba (201) 460-1700

## Notes:

ARAR - Applicable or Relevant and Appropriate Requirement  
 USACE - U.S. Army Corps of Engineers  
 NJDEP - New Jersey Department of Environmental Protection  
 CWA - Clean Water Act  
 SESC - Soil Erosion and Sediment Control  
 LURP - Land Use Regulation Program

## SECTION 2

# Federal Regulatory Requirements

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To ensure that the substantive requirements of ARARs are met, the project team has identified the compliance requirements and measures detailed in this section.

The federal regulatory requirements considered to be applicable to this project are:

- **Section 404 of the CWA and Section 10 of the Rivers and Harbors Act.** Section 404 of the CWA establishes a permit program to regulate the discharge of dredged or fill material into the waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act prevents the creation of any obstruction not authorized by Congress to the navigable capacity of any of the waters of the United States, except as authorized by the USACE Chief of Engineers.
- **Section 402 of the CWA NPDES.** Controls water pollution by regulating point sources that discharge pollutants into waters of the United States. This includes stormwater and groundwater discharges and discharges of drawdown waters discharging directly into waters of the United States that are taking place on the site.
- **ESA.** Prohibits unauthorized taking, possession, sale, and transport of endangered species and authorizes the assessment of civil and criminal penalties for violations. The taking of a protected species includes harming the species directly or indirectly through habitat manipulation.
- **Section 106 of the NHPA.** Requires federal agencies to consider the effects of undertakings on historic properties.
- **PCB Remediation Waste.** Regulations pertaining to the identification, management, and cleanup of remediation waste containing PCBs.
- **Spill Prevention, Control, and Countermeasures.** Various requirements if onsite oil storage capacity exceeds 1,320 gallons in 55-gallon containers or larger. These requirements consist of planning, secondary containment, inspections, tank testing, security and operational procedures.
- **CERCLA Offsite Rule.** Waste from a CERCLA site that is sent offsite must be sent to a disposal facility that is approved by EPA (in this case the disposal facility would need to be approved by EPA Region 2).
- **Public Involvement in CERCLA NTCRA.** EPA requires community relations actions be taken for NTCRA with respect to managing information repositories and public notices.

The requirements associated with these regulations are summarized in this section. If the particular requirement falls under the direct jurisdiction of the state (i.e., CWA NPDES), the requirements and compliance measures are discussed in Section 3.

## 2.1 Section 404 of the CWA and Section 10 of the Rivers and Harbors Act

As noted above, Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into the waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act prevents the creation of any obstruction not authorized by Congress to navigable capacity of any of the waters of the United States except as authorized by the USACE Chief of Engineers.

The agency that administers these regulations is the USACE, under Title 40: Protection of Environment (40 Code of Federal Regulations, or CFR), Part 230—Section 404(b)(1), “Guidelines for Specification of Disposal Sites for Dredged or Fill Materials” and 40 CFR 322, “Permits for Structures in or Affecting Navigable Waters of the U.S.” For the UOP NTCRA in East Rutherford, N.J., the District Engineer of the USACE New York District, or such other individual as may be designated by the Secretary of the Army, would be responsible for issuing these permits.

The types of activities in the channels, and the adjacent wetland impacts, proposed by this project would fall under the USACE Nationwide Permitting (NWP) program. The USACE published revised NWPs in the *Federal Register* on March 29, 2007. The requirements for the following two NWP permits would be applicable to the UOP NTCRA:

- NWP-33 Temporary Construction, Access, and Dewatering
- NWP-38 Cleanup of Hazardous and Toxic Waste

### 2.1.1 NWP-33 Temporary Construction, Access, and Dewatering

This permit applies to temporary structures, work, discharges (including cofferdams, necessary for construction activities), and access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the USACE. It requires that appropriate measures be taken to maintain near-normal downstream flows and to minimize flooding. Fill must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Following completion of construction, temporary fill must be moved entirely to the upland areas, dredged material must be returned to its original location, and the affected areas must be restored to preconstruction elevations, to the extent practicable. The affected areas must also be re-vegetated, as appropriate.

### 2.1.2 NWP-38 Cleanup of Hazardous and Toxic Waste

This permit applies to specific activities required to effect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Court-ordered remedial action plans or related settlements are also authorized by this NWP. This NWP does not authorize the establishment of new disposal sites or the expansion of existing sites used for the disposal of hazardous or toxic waste.

### 2.1.3 ARAR Compliance Actions

#### Wetland Delineations

The presence of wetlands, Ackermans Creek, and associated channels are identified within the project area on the Weehawken, New Jersey U.S. Geological Survey 7.5-minute quadrangle map. This wetland and stream complex is known as “Ackermans Creek” or “Swamp.” Field assessments were conducted by Edwards and Kelcey in August 2004 (Edwards and Kelcey, 2005a). The wetland line is shown on the plan labeled, “UOP Substantive Permit Requirements,” which is included as Appendix A.

The lagoon was not regulated by the USACE within the limits of the most recent approved Jurisdictional Determination, received by Edwards and Kelcey in 2005.

Mitigation of impacts to waters of the United States, including wetlands, is defined by the Council on Environmental Quality in 40 CFR 1508.20 to include avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts.

#### Wetlands Impacts

The NTCRA is limited to sediment, substrate, and soil material removal within the two portions of the lagoon, surrounding berms, the “L Parcel” between the lagoon, North Channel and NJ Transit Pascack Valley rail line, Southern Ditch, and the three channels. Impacts to tidal wetlands adjacent to these areas will be avoided to the maximum extent practicable. Because this is a disturbed tidal wetland complex and the channels were historically developed by anthropogenic activities, phragmites, which is known to thrive in disturbed soil areas, has formed a monotypic plant community in the adjacent wetlands, the channels with relatively shallow water depths, and on top of berms with elevations above the high-tide limit.

Berm material will be excavated to clay to allow for removal of impacted material. These areas will be backfilled with a minimum of 1-foot of clean coarse granular fill. Phragmites are expected to migrate into the lagoon, creating wetland characteristics where they did not exist previously. An increase of wetland area is anticipated following remediation.

All lagoon and streambed excavation areas will be backfilled with a minimum of 1-foot of clean coarse granular fill to provide a suitable benthic community substrate. No net loss of waters of the United States, including wetlands, is expected to occur following removal of the temporary access road and substrate replacement below the mean high-tide limits. Once the tide gate is removed, normal tidal hydrologic regime characteristics will resume and will provide tidal wetland hydrology to the wetland complex.

Mitigation is incorporated into the remedial action such that no net loss of wetlands is expected; therefore, there is no requirement for compensatory mitigation. Avoidance and minimization are being carried out by using appropriate equipment and machinery and by dewatering the lagoon before substrate excavation. The lagoon sediment will be removed following dewatering using long-reach excavators, low-ground-pressure bulldozers, front-end track loaders, and mechanical excavators. Sediment in the channels will also be removed using long-reach excavators working from the upland edges or lagoon berms. Additional work to reduce impacts will include residuals-management activities using

turbidity and soil erosion controls, performing confirmation sampling, and analyzing remediated areas.

A temporary access road will be installed from the upland area to the eastern berm, and will cross Ackermans Creek and the surrounding wetlands. Typical access road construction would consist of a simple stone ford-crossing installation that would include approximately 2,400 square feet of geotextile base, an approximately 36-inch-diameter advanced drainage system, and approximately 9,600 square feet of #57 stone fill topped with Dura-Base mat sections. Following the completion of the lagoon excavation, substrate replacement, and channel (berm) reestablishment, the stone ford and Ackermans Creek piping would be removed.

Equipment mats will be placed on the sides of the channels and the lagoon to allow the equipment to excavate sediment along the banks and in the channels without sitting in the water.

Equipment and machinery will be maintained and operated appropriately, and will be decontaminated in appropriate staging locations.

Finally, the UOP site is not within shipping channels, does not support direct aquaculture or commercial fishing, and is not suspected to be used for recreational boating or fishing. Therefore, no special conditions would be placed on the site to eliminate interference with such activities.

## 2.2 Section 402 of the CWA NPDES

As previously noted, Section 402 of the CWA and the NPDES program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. This includes wastewater, stormwater and groundwater discharges, and discharges of drawdown waters discharging directly into U.S. waters that are taking place on the site.

In New Jersey, the NPDES program is known as the NJPDES program. New Jersey issues individual and general permits containing numerical and physical effluent limits for surface water discharges, stormwater discharges, and groundwater discharges. Substantive requirements of these regulations and permits are discussed in Section 3.1.

## 2.3 Federal Threatened and Endangered Species

As noted above, the ESA prohibits unauthorized taking, possession, sale, and transport of endangered species, and authorizes the assessment of civil and criminal penalties for violations. The taking of a protected species includes harming the species directly or indirectly through habitat manipulation.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) share responsibility for administering the ESA.

The permit required when a nonfederal activity or activities will result in taking of threatened or endangered species is known as an “incidental take permit.” The requirements of this permit are to protect federally listed threatened and endangered species during construction activities.

### ARAR Compliance Action

Information about rare, threatened, or endangered species, communities, and habitats, was requested from the NJDEP New Jersey Natural Heritage Program and the NMFS. The most recent response from the NDEP, dated September 29, 2010, did not indicate the presence of any rare or endangered species, communities, or habitats within ½ mile of the project area, with the exception of the snowy egret (*Egretta thula*). The NMFS was contacted regarding the Endangered Species Act, the Fish and Wildlife Coordination Act, and the Magnuson-Stevens Fishery Conservation and Management Act. In a response dated September 29, 2010, the NMFS stated that no endangered or threatened fish species are known to occur in the project area. The U.S. Fish and Wildlife Service was not contacted because federally listed species are not present in the Boroughs of East Rutherford and Carlstadt (U.S. Fish and Wildlife Service [USFWS] 2009).

Three additional species – the state-threatened yellow-crowned night heron (*Nyctanassa violacea*), the state-threatened Savannah sparrow (*Passerculus sandwichensis*), and the state endangered northern harrier (*Circus cyaneus*) – also occur in the Meadowlands and could occur at the Streamlands.

Federally listed threatened and endangered species have not been identified to occur within the project area. Therefore, impacts to these species are unlikely. Critical habitat for the state-listed species of concern does not exist within the project area, and therefore adverse impacts to species identified by New Jersey's Endangered and Nongame Species program are not anticipated.

## 2.4 Cultural Resources and Section 106

As previously noted, Section 106 of the 1966 NHPA requires federal agencies to consider the effects of undertakings on historic properties. The Advisory Council on Historic Preservation is an independent federal agency that promotes the preservation, enhancement, and productive use of our nation's historic resources and advises the President and Congress on national historic preservation policy. The Advisory Council on Historic Preservation is responsible for administering the NHPA under 36 CFR Part 800, "Protection of Historic Properties."

The requirements of the Section 106 review process are to prevent altering the characteristics of a historic property in such a way as to diminish its integrity or to have an adverse effect during the course of project activities.

### ARAR Compliance Actions

NJDEP Landscape Project mapping, which contains the boundaries of Critical Environmental and Historic Sites of the New Jersey State Development and Redevelopment Plan, was reviewed on September 23, 2010, and no known sites were identified. A known site would be one that is of local, regional, or statewide significance, and therefore its protection and enhancement would be of primary importance. According to the NJDEP Historic Preservation Office and the New Jersey National Register of Historic Places (updated April 1, 2010), the project area contains no archaeological or architectural resources that have been listed, or have been determined eligible for listing, in the State or National Register of Historic Places. There are no zones of sensitivity within the project area.

that are likely to contain unidentified resources (Edwards and Kelcey, 2005a). Relying on an archaeological study of the NJ Route 120 area from 1995, the Edwards and Kelcey (2005a) investigation showed that preservation of sites in places such as the current sports complex is highly unlikely because of the extent of terrain disturbance. The presence of thick blankets of modern fill and the extent of muck soils render available site identification procedures deeply problematic in such settings. The New Jersey State Historic Preservation Office concurred with the findings of the 1995 study, and concluded that no historic properties were present in the NJ Route 120 project area (Edwards and Kelcey, 2005a).

## 2.5 PCB Remediation Waste Regulations

The TSCA of 1976 establishes prohibitions of, and requirements for, the manufacture, processing, distribution in commerce, use, disposal, storage, and remediation of PCBs and PCB items. PCB remediation waste means waste contaminated with PCBs as a result of a spill, release, or other unauthorized disposal of PCBs and materials disposed of prior to April 18, 1978, that are currently at concentrations  $\geq 50$  ppm PCBs, regardless of the concentration of the original spill. PCB remediation waste can be soil, rags, and other debris generated as a result of any PCB spill cleanup, including, but not limited to environmental media containing PCBs, such as soil and gravel; dredged materials, such as sediments, settled sediment fines, and aqueous decantate from sediment. USEPA and NJDEP are responsible for administering TSCA regulations.

### 2.5.1 Waste Classification

The in situ waste characterization sampling according to TSCA is important because PCB remediation waste is regulated at its “as found” concentration and because of the anti-dilution requirements.

The PCB anti-dilution requirements in 40 CFR 761.1 state that “no person may avoid any provision specifying a PCB concentration by diluting the PCBs.” The TSCA regulations make a point that sampling before any mixing occurs and sampling separate phases in multi-phase waste (for example, non-liquid/liquid) is required. It also states in 761.20(c)(2)(iii) that “...processing, diluting or otherwise blending of waste prior to being introduced into a disposal unit for purposes of meeting a PCB concentrations limit shall be done in accordance with a TSCA PCB disposal approval or comply with the requirements of 40 CFR 761.79.”

#### PCB Storage for Disposal

The PCB storage for disposal requirements at 40 CFR 761.65(c)(9) apply once the PCB remediation waste with concentrations greater than 50 ppm are removed from the ground. The PCB temporary storage site requirements are:

- Waste can only be stored at the cleanup site up to 180 days.
- It must be designed and operated to control wind dispersal of waste, by means other than wetting.
- The waste must not generate leachate through decomposition or other reactions.

- The site must have a liner of sufficient strength and thickness to prevent migration of wastes and failure caused by pressure gradients and the stress of daily operation.
- The liner must be placed on a foundation or base capable of providing support.
- A cover must be installed to cover the stored waste to prevent contact with precipitation and be secure enough not to be disturbed by wind.
- A run-on control system to prevent flow onto the stored waste during a 25-year storm and run-on collection and holding facilities (such as tanks or basins) to collect precipitation from such storm are required.

### PCB Cleanup and Disposal

PCB remediation waste with in situ or “as found” concentrations greater than or equal to 50 ppm is regulated for cleanup and disposal in accordance with three options presented in 40 CFR 761.61. The self-implementing cleanup option is not applicable to sediments in marine and freshwater ecosystems. The second option addresses disposal of PCBs and indicates that non-liquid remediation waste will be sent to a TSCA-permitted landfill, incinerator, or be disposed of by other approved method. It also states that dredge or excavated materials from waters of the U.S. with PCBs < 50 ppm can be disposed under a USACE Section 404 or 103 permit or equivalent.

The third option is a risk-based disposal approach in which a written plan is submitted to EPA at least 30 days before cleanup begins and includes items listed in 40 CFR 761.61.

If this approach is taken, once cleanup is underway, any proposed changes should be provided to the EPA within 14 days of implementing the change.

The USEPA TSCA rules in 40 CFR 761 provide federal PCB remediation requirements that must be coordinated with the NJDEP Site Remediation Program policy during PCB remediation projects. This coordination requires permanent remediation of PCBs, depending on planned future use and the PCB concentrations detected.

### Offsite PCB Waste Disposal

Bulk PCB remediation wastes with a PCB concentration  $\geq 50$  ppm shall be disposed of in a permitted hazardous waste landfill or TSCA landfill. Bulk PCB remediation waste with PCB concentrations  $\leq 50$  ppm can be disposed of in a permitted hazardous waste landfill, a TSCA landfill, or a solid waste landfill permitted under 40 CFR 258. Note that not all solid waste landfills will accept PCBs  $\leq 50$  ppm based on their state permitting requirements. TSCA requires that liquids contaminated with PCBs at concentrations of 50 ppm or greater be disposed of in an incinerator or by an alternate method that achieves a level of performance equivalent to incineration.

## 2.5.2 ARAR Compliance Actions

### Waste Classification

The “as found” concentration is the concentration of the lagoon surface water, soil or sediment before it is mixed with clean soil, drying agents, or other wastes or materials. PCB data has been collected from the lagoon and each stream channel. The PCB concentrations in the sediments are provided in the technical memorandum entitled April 2011 Pre-design Sampling Event Summary (CH2M HILL 2011b). In summary, PCBs have been detected at

concentrations greater than 50 ppm in some locations within all the channels, except the Southern Ditch. In addition, concentrations of PCBs decrease in depth in most cases. The concentrations of PCBs in the samples from the Southern Ditch were less than 1 ppm. In each channel, there appears to be a clay layer below the sediments at approximately 4 to 6 feet deep. Most samples from this clay layer contain PCBs at concentrations less than 1 ppm or not detected above method detection limits.

As described above sediments in the channels and lagoon have been sampled and analyzed for PCBs providing an understanding of how sediments should be classified for TSCA disposal. In-situ data will be used to determine whether sediments will be disposed of as TSCA or non TSCA waste. The plan for establishing the final TSCA classification areas will be prepared and submitted to EPA for review prior to the start of the removal project.

### **PCB Storage for Disposal**

To meet the offsite waste disposal criteria, the excavated sediment and soil will be transferred to the sediment/soil containment pad to slack or air dry and, if necessary, will be mixed with a pozzolanic or desiccation material to aid the drying process. The final design will be compliant with TSCA requirements for temporary storage sites at 40 CFR 761.65(c)(9) including construction of a sediment/soil containment pad.

To comply with the anti-dilution rule, any commingling of PCB waste with original concentrations > 50 ppm with other wastes or drying agents would make the whole quantity of waste subject to TSCA disposal requirements.

### **PCB Cleanup and Disposal**

The proposed approach for the NTCRA is to remove sediment in the lagoon and stream channels to the depth of the clay layer at about 4 to 6 feet below the current top of sediment surface. This clay layer is laterally continuous within the site and removal of material is expected to be terminated once this layer is encountered. A Sampling and Analysis Plan will be developed before implementing the NTRCA to identify the proposed verification sampling to be conducted confirming contaminated PCB sediment removal.

### **Offsite PCB Waste Disposal**

Following drying, the excavated sediment and soil materials will be transported to a hazardous, nonhazardous, or TSCA waste disposal facility, based upon the materials' pre-storage TSCA or non-TSCA classification (and pre- and post-storage hazardous waste and underlying hazardous constituent levels). PCB remediation wastes with >50 ppm originally will need to be managed at a TSCA-permitted landfill (and possibly also a hazardous waste landfill if concentrations exceed toxicity characteristic and/or because of land disposal restriction treatment standards).

## **2.6 Spill Prevention, Control, and Countermeasures Requirements**

The EPA requires spill prevention, control, and countermeasures (SPCC) at facilities that store oil or other products containing petroleum in significant quantities such that these products could reach and contaminate navigable waters. The SPCC Program is part of the EPA's oil spill prevention program. This program was originally published in 1974 under

the CWA [311(j)(1)(C)], and the SPCC rule can be found at 40 CFR 112. The goal of the SPCC program is to prevent discharges of oil into navigable waters, and one of the primary ways used to achieve this goal is by requiring secondary containment.

The SPCC requirements include, but are not limited to, tank design standards, facility drainage systems, secondary containment, security, routine inspections, tank testing, level gauging and alarms to prevent spills, and spill response measures. The regulations also require that an SPCC Plan be prepared under the direct supervision of a registered professional engineer licensed by the State of New Jersey.

### **ARAR Compliance Actions**

It must first be determined if the SPCC requirements are applicable at the site. Compliance with SPCC regulations is required for any site that has aggregate petroleum storage capacity totaling 1,320 gallons and has a reasonable chance of reaching navigable waters of the U.S. Only containers holding material containing petroleum products that have a capacity of more than 55 gallons should be counted towards the aggregate totals.

In the event that petroleum storage capacity is over 1,320 gallons, then an SPCC compliance plan will be developed.

It is recommended that the construction contractors be advised not to store fuel onsite during remediation for their motorized equipment. Mobile refuelers can visit the site and refuel construction equipment and leave. Contractor will be advised that the refueling process is to be conducted on pavement and with secondary containment (such as drip pans, absorbent socks and mats) and readily available spill kits. It is also recommended that refueling not take place within 50 feet of surface water.

The following items must be developed under the direction of a New Jersey-licensed professional engineer and understood by the construction team as part of SPCC substantive requirements:

- Strategy for the facility's conformance with requirements listed in 40 CFR 112
- A summary of the types of petroleum products being stored and the capacity of each container
- Discharge prevention measures and procedures
- Countermeasures for discharge discovery, response and cleanup
- Disposal methods for recovered materials
- A contact list of responsible individuals, and procedures for reporting incidents
- Appropriate containment and diversionary structures to prevent a discharge
- Regularly scheduled inspections and tests in accordance with written procedures developed for the facility
- Training for oil-handling personnel in the prevention of discharges, designating a person to be accountable for discharges, and conducting discharge prevention briefings

The following must be considered in order to comply with §112.8 (SPCC Plan requirements for onshore facilities):

- Do not store any petroleum product in a container that is not compatible with that product.
- Provide a secondary means of containment for the entire capacity of the container with sufficient freeboard to contain precipitation that is impervious to the petroleum products stored.
- Do not partially bury a metallic tank unless it is properly protected from corrosion.
- Engineer each container in accordance with good engineering practices and configure an acceptable device to prevent any container from being over-filled.
- Promptly correct visible discharges.
- Properly design pipe supports to minimize abrasion and allow for expansion and contraction.
- Warn all vehicles entering facility of the hazard of damaging piping or containers.

The preparation of an SPCC Plan is considered necessary at CERCLA sites to demonstrate compliance with the “substantive” requirements mentioned above. The plan should also include a description and diagram of the layout of the facility, including location and capacities of the petroleum product tanks, containers and piping.

## 2.7 CERCLA Off-Site Rule

It is important that the Off-Site Rule in 40 CFR 300.440 be understood and applied to projects that are performed under CERCLA authority. The Off-Site Rule applies to any removal or remedial action where waste is sent offsite and where the waste contains a hazardous substance, pollutant, or contaminant as defined in CERCLA - i.e., CERCLA waste. These wastes are not necessarily hazardous wastes (for example, the concentrations could be below the hazardous waste “Toxicity Characteristic Leaching Procedure (TCLP)” criteria, but above site screening criteria).

### ARAR Compliance Actions

Waste generated and transferred offsite as a result of remediation activities subject to CERCLA, must be sent to a facility that is found acceptable to EPA under the Off-Site Rule. EPA determines the acceptability of each off-site waste disposal facility to accept CERCLA wastes. EPA then provides the facility with written approval. In some EPA regions, the Off-Site Rule only applies to wastes generated at a CERCLA sites after a decision document (for example, Record of Decision or Action Memorandum) has been signed (see 40 CFR 300.440[a][3]). In other regions (for example, EPA Region 9), the Off-Site Rule has been applied to wastes generated during investigation (investigation-derived waste).

Each EPA Region keeps its own list of Off-Site Rule-approved facilities within the region. The lists of Off-Site Rule approved facilities change regularly. Depending on the EPA Region, a facility may be acceptable to EPA under the Off-Site Rule for 6 months, for 1 year, or until notified otherwise by EPA (40 CFR 300.440[a][4]).

There is no comprehensive list of facilities with Off-Site Rule approval available on the Internet. The project team must contact the offsite facility directly or the EPA Region to find out if the facility is currently approved under the Off-Site Rule. The facility may send Off-Site Rule approval information from EPA, but confirmation of the facility's approval with the EPA Regional Off-Site Rule Contact is recommended.

The project team acknowledges that facilities with Off-Site Rule approval are not the same as the Honeywell "approved" facilities. Client-approved facilities must also be reviewed by the appropriate EPA Region under the Off-Site Rule before CERCLA waste can be shipped to them.

## 2.8 Public Involvement in CERCLA NTCRA

Sections 300.415(m) and 300.820 of the NCP specify community relations and administrative record activities as two forms of public participation necessary for all removal actions. The EPA is responsible for ensuring that these requirements are met.

Community relations requirements during removal actions are intended to promote active communication between communities affected by a release or a threat of release (including the potentially responsible party) and the lead agency. The following community relations activities are required for NTCRAs:

- Designate a community relations spokesperson
- Establish the information repository
- Conduct community interviews
- Prepare Community Relations Plan
- Issue public notice of availability of the EE/CA

### ARAR Compliance Actions

A community relations plan will be developed, and public notification approaches will be led, by Honeywell. The information repository will need to be established for this project.

# State and Local Regulatory Requirements

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The New Jersey regulations that typically would be considered ARARs with respect to this project are the following:

- **NJDEP Waterfront Development Act.** Protects any tidal waterway of the state and all lands lying there under, up to and including the mean high tide line.
- **NJDEP Flood Hazard Area Control Act.** Minimizes damage to life and property from flooding caused by development within fluvial and tidal flood hazard areas, preserves the quality of surface waters, and protects the wildlife and vegetation that exist within and depend upon such areas for sustenance and habitat.
- **NJDEP Tidelands Act.** Protects tidelands (also known as riparian lands), which are all lands now or formerly flowed by the mean high tide of a natural waterway.
- **NJPDES Construction Dewatering Discharges General Permit.** A general permit for discharge of groundwater with *de minimis* pollutants to certain surface waters for purposes of lowering the groundwater water table during construction.
- **NJPDES Discharge to Surface Water for Remediation Clean-up General Permit.** A general permit to facilitate treated effluent discharges from remediation in accordance with New Jersey Surface Water Quality Standards.
- **NJPDES Stormwater Pollution Prevention for Construction Activities General Permit.** Land-disturbing activities during construction affecting more than 1 one acre are required to implement best management practices (BMPs) for sediment and erosion controls and stormwater run-on and runoff management.
- **Treatment Works Approval.** Regulates the construction and operation of industrial wastewater treatment facilities and is aimed at protecting the waters of the state by preventing the entry of increased pollutants from inadequate facilities.
- **NJ Division of Wildlife, Bureau of Freshwater Fisheries.** Protects fish, turtles, and other aquatic biota during construction
- **Hazardous Waste Management.** Regulations for the identification, onsite accumulation, handling, treatment, transport, and disposal of hazardous waste. The RCRA corrective action program is an ARAR, and EPA believes the CERCLA and RCRA corrective action programs have the same fundamental goal – to clean up contaminated sites.
- **Dust.** Prevent dust (particulate matter) from becoming injurious or interfering with the life of another property owner or prohibiting the enjoyment of that property.
- **Odor.** Prevent excessive odor from becoming injurious or interfering with the life of another property owner or prohibiting the enjoyment of that property.

- **New Jersey Spill or Discharge Notification.** Similar to the SPCC rules, the NJ Spill Compensation and Control Act, Discharge Prevention, Containment, and Countermeasure regulation applies only to facilities that store 20,000 gallons or more of State-regulated hazardous substances, excluding petroleum products, or 200,000 gallons of regulated hazardous substances including petroleum products.
- **Air Emissions Requirements.** NJDEP has established regulations for the control and prohibition of pollution, including several types of air contaminants. Fugitive emissions and toxic air pollutants from the site removal activities may require monitoring and emission controls.
- **Bergen County Soil Conservation District Soil Erosion and Sediment Control Plan Certification.** Controlling erosion during construction in accordance with a comprehensive set of erosion control practices known as the Standards for Soil Erosion and Sediment Control.
- **NJ Meadowlands Commission Zoning Rules.** Zoning and planning agency for a 30.4-square-mile area along the Hackensack River which encompasses the site.

The substantive requirements of applicable state regulations, permits, and the compliance measures being implemented to ensure that they are met, are detailed below.

## 3.1 State Regulatory Requirements

### 3.1.1 Waterfront Development Act

The Waterfront Development Act (N.J.S.A. 12:5-3) was established to limit problems that new development could cause for existing marinas, moorings, navigation channels, other existing uses, and the environment. The goal of this law is to protect any tidal waterway of the state and all lands lying there under, up to and including the mean high water (MHW) line. The regulations codified in N.J.A.C. Title 7, Chapter 7E (7:7E) *Coastal Zone Management*, put in place the compliance requirements for this Act.

The NJDEP regulations require a Waterfront Development Permit application to be submitted to the Department of Land Use Regulation for land development at or below the MHW line, within the jurisdiction of the Hackensack Meadowlands District and within 500 feet of the MHW line or the closest roadway, whichever is nearest to the MHW line.

N.J.A.C. 7:7-2.3 (c)1 define the requirement for a Waterfront Development Permit if there is any removal or deposition of subaqueous materials (for example, excavation, dredging, or filling) in the portion of the waterfront area at or below the MHW line. Therefore, any development proposed in a tidally flowed waterway in New Jersey requires a Waterfront Development Permit.

#### ARAR Compliance Actions

The substantive requirements of this permit are:

- The NTCRA must comply with all applicable Coastal Zone Management rules (N.J.A.C. 7:7E). Compliance with key requirements is summarized in sections below.

- The project proponent must show proof of tidelands ownership for the project area. (See Appendix A.)
- A stormwater management plan with calculations must be submitted.
- A wetland delineation (for tidal and freshwater wetlands) must be submitted and avoidance, minimization, and mitigation of wetlands is required where possible. (See Appendix A.)

### Subchapter 3. Special Areas

The Coastal Zone Management rules identify more than 50 special areas and associated requirements. Special areas are areas that are so naturally valuable, important for human use, hazardous, sensitive to impact, or particular in their planning requirements as to merit focused attention and special management rules. The sections below summarize some special areas that could be potential ARARs.

#### *7:7E-3.6 Submerged Vegetation Habitat.*

Water areas documented as previously supporting rooted and submerged vascular plants are considered to be submerged vegetation special areas. The project area consists of intertidal salt marshes, estuarine deep water, and mudflats. Vascular vegetation is not located in estuarine deep water and either is lacking or exists in low biomass in mud flats within the entire Hackensack Meadowlands District (Kiviat and MacDonald, 2002). Field investigations performed in 2004 (Edwards and Kelcey, 2005b) for the Meadowlands Railroad and Roadway Improvement Project indicated that no submerged vegetation was observed in the project area of Ackermans Creek. Therefore, no impacts to submerged vegetation habitat are expected and the removal action would comply with this policy.

#### *7:7E-3.12 Submerged Infrastructure Routes.*

There are known submerged private or public utility features within the project area. Ground-intrusive activities will not start until the remediation contractor has notified the New Jersey One Call System and has complied with New Jersey's Underground Facility Protection Act. The contractor will be responsible for the safety, maintenance, protection, and final restoration to the same usefulness, durability, and safety as what existed preconstruction. This applies to not only submerged infrastructure but also all surface and subsurface utilities, facilities, streets, structures, waterways, and other properties at or near the site. Utilities identified will be placed on all plans detailing excavation and stabilization activities to assure the utilities' protection and compliance with the Act to the extent possible. As a result, the removal action is expected to comply with this policy.

#### *7:7E-3.15 Intertidal and Subtidal Shallows.*

Project disturbances within the intertidal and subtidal areas consist of the northern and eastern channels, southern ditch, and eastern channel meander. Sediment from these areas will be excavated and these areas will be backfilled with a minimum of 1-foot of clean coarse granular fill. The goal of the NTCRA is to remediate contaminated sediment and remove contaminant mass that is a potential source of contamination to OU2. Therefore, the proposed project is in compliance with this rule.

### ***7:7E-3.25 Flood Hazard Areas.***

Even though the project is located within the Flood Hazard Area, no impact on the flood hazard area is anticipated. The proposed project does not require permanent structures that may obstruct tidal and stormwater flows. Following sediment removal, the areas will be backfilled with a minimum of 1-foot of clean coarse granular fill. The project will not permanently alter any drainage patterns. Section 3.1.2 further describes the Flood Hazard Area Control Rules (N.J.A.C. 7:13) and the associated substantive permit requirements. This project complies with Section 7:7E-3.25, since no permanent development will occur within the Flood Hazard Area creating an obstruction that could increase flood elevations.

### ***7:7E-3.26 Riparian Zones.***

The New Jersey Flood Hazard Area Control Rules 7:13-4.1(a)4 state that a riparian zone exists along every regulated water. The riparian zone is measured landward of a feature's centerline or from the boundaries of amorphously-shaped features, such as a wetland complex through which a regulated water feature flows, but which lacks a discernible channel. Activities associated with the project, such as the temporary access road, staging and storage areas, as well as water treatment works facilities, would be located within riparian zones. The lagoon is not considered to have a riparian zone because it is man-made; however, the channels and wetland disturbance do have a 50-foot riparian zone. The channels will be restored using substrate material. The berms' top elevation will be lowered, allowing flow in and out of the area that was previously a lagoon. The removal of phragmites within the wetlands and on the berms will be limited to the workspace and any sections where removal is required; and the areas will be allowed to revegetate naturally following remediation. Adjacent wetland areas affected by the channel and lagoon excavation will revert to original conditions.

Temporary soil and material will be stockpiled in the riparian zone and in accordance with the hazardous waste and PCB regulations summarized in this document. This area is currently disturbed and contains sparse vegetation as a result of the compacted soil and subsurface materials. In addition, soil erosion and sediment control measures will be implemented to protect the surrounding riparian zone beyond the work area. The project, therefore, will be in compliance with this section. Compliance with the riparian zones is further discussed in Section 3.1.2.

### ***7:7E-3.27 Wetlands.***

This project complies with state and federal policies for delineating and constructing within wetlands. Section 2.1 of this document describes wetlands and mitigation measures for avoidance and minimization of wetland impacts.

### ***7:7E-3.36 Historic and Archaeological Resources.***

This project complies with state and federal policies regarding historic and archaeological resources. No impact to cultural resources is anticipated. See Section 2 of this document for a description of historic and cultural resources.

**7:7E-3.38 Endangered or Threatened Wildlife or Plant Species Habitats.**

This project complies with all state and federal policies and conditions regarding endangered or threatened wildlife. See Section 2.3 of this document for a description of endangered or threatened wildlife or plant species habitat resources.

**7:7E-3.39 Critical Wildlife Habitats.**

Representatives of the New Jersey Natural Heritage Program were contacted, and a response was received on September 29, 2010. No areas within the boundaries of the site or within 0.25 mile of the site were identified as “Critical Habitat” (see Section 2.3 of this document for more details.) As a result, the removal action will comply with this policy.

**7:7E-3.41 Special Hazard Areas.**

Special hazard areas include areas with a known actual or potential hazard to public health, safety, and welfare, or to public or private property, such as where hazardous substances, as defined at N.J.S.A. 58:10-23.11b-k, are used or disposed of, including adjacent areas and areas of hazardous material contamination. Typically, approvals from NJDEP’s Division of Solid and Hazardous Waste are obtained before beginning hazardous substance investigations or cleanup activities at contaminated sites. The UOP site is a listed CERCLA site and therefore is known to contain potentially hazardous materials.

The purpose of this project is to remediate the hazardous materials contained within the site. Investigations have been conducted to indicate contamination levels and to provide data for designing remediation procedures, as well as to develop a Discharge Prevention and Discharge Cleanup and Removal Plan. Several sediment removal techniques were initially considered. Based on engineering evaluation and review, the recommended removal technique includes pumping water out of the lagoon, followed by dry excavation, sediment and berm soil slack-drying, and augmentation. The technique includes performing a rapid (1,500 gallons per minute (gpm) for approximately 24 hours) dewatering of the lagoon by direct discharge in accordance with NJPDES pretreatment and discharge requirements to Ackermans Creek. This approach involves using a floating suction device and installing a 60-inch-diameter tide gate at the east side of the Murray Hill Parkway culvert to minimize turbidity. The tide gate provides effective turbidity control by preventing daily tidal inundation into the remedial areas.

Handling of hazardous material (including hazardous waste and PCB waste) will use the latest BMPs to reduce health and safety hazards to the extent practical.

**7:7E-3.45 Hackensack Meadowlands District** The Hackensack Meadowlands District is a 19,485-acre area of water, coastal wetlands and associated uplands within the boundaries described in the Hackensack Meadowlands Reclamation and Development Act (N.J.S.A. 13:17-1 et seq.). The project is located completely within the Hackensack Meadowlands District. The project complies with the district’s zoning requirements. Hackensack Meadowlands District regulations are described in Section 3.2.2 of this document.

### ***7:7E-3.47 Geodetic Control Reference Marks.***

According to the National Geodetic Survey Datasheet page (<http://www.ngs.noaa.gov/cgi-bin/datasheet.prl>), there are no survey markers located within the Weehawken Quadrangle. Therefore, the project would have no effect on geodetic control reference marks and would be in compliance with this policy.

### ***7:7E-3.50 Lands and Waters Subject to Public Trust Rights.***

Lands and waters subject to public trust rights are tidal waterways and their shores, including both lands now or formerly below the MHW line, and shores above the MHW line. (See the section discussing Subchapter 8, Public Trust Rights (7:7E-8.11) for detailed information regarding public trust rights and how the project is in compliance with this policy.)

## **Subchapter 4. General Water Areas**

General Water Areas are all water areas located below either the spring high water line or the normal water level of non-tidal water that are subject to the Coastal Zone Management rules and to Special Area rules. There are 22 General Water Areas identified in the regulations and the following sections summarize potential ARARs.

### ***7:7E-4.7 New Dredging.***

New dredging is the removal of sediment that does not meet the definition of maintenance dredging at N.J.A.C. 7:7E-4.6. Maintenance dredging is the removal of accumulated sediment from previously authorized and legally dredged navigation and access channels, marinas, lagoons, canals, or boat moorings for the purpose of maintaining a previously authorized water depth and width for safe navigation. Maintenance dredging would not apply to this project because the purpose of this dredging is not for maintaining a previously authorized water depth and width for safe navigation. The dredging of sediment associated with the NTCRA is strictly for removing contaminated sediments from the lagoon and waterways. Any “new dredging” requires that environmental impacts are minimized to the maximum extent feasible; the dredge area is reduced to the minimum extent practical; dredging will have no adverse impacts on groundwater resources; and no dredging occurs within 10 feet of any wetlands. The proposed slope from this 10-foot buffer to the nearest edge of the dredged area shall not exceed three horizontal to one vertical (3H:1V), and dredging shall be accomplished consistent with conditions as appropriate to the dredging method.

The lagoon will be dewatered prior to removal of material such that contaminated sediments are removed “in the dry” using long-reach excavators. A tide gate will be installed at low tide to prevent tidal flows into the area. Remaining water in the channels will be pumped and treated such that remaining contaminated sediments are removed “in the dry”.. This excavation process will ensure that the escape of contaminated material is reduced to the extent possible; potential adverse environmental impacts to the surrounding area are prevented; the extent of excavation is minimized; and no effects to groundwater occur. Avoidance of the 10-foot wetland buffer is not possible. The goal of the restoration is to allow wetland recovery and expansion following removal and fill.

The sediment volumes within the stream channels to be excavated to the depth of the clay layer are based on the remedial investigation, pre-design data, and the survey. The excavation depth within the stream channels will range from 4 to 6 feet and a 2' cut within the lagoon areas. The depth to which the lagoon berms will be excavated is similar to the contiguous stream channel excavation depth. The fill material in the lagoon berm areas will be placed to match the restored elevation of the eastern and southern stream channels. Stream side slopes may exceed 3H:1V during excavation activities, however restored slopes will be placed so they do not exceed the 3H:1V requirement. Because the sediment and soil excavation methods will limit downstream turbidity, limit the suspension of contaminants, improve the health of the surrounding wetlands, and allow for expansion of the existing wetlands, the removal action is in compliance with this policy.

#### ***7:7E-4.8 Dredged Material Disposal.***

All excavated spoils will be disposed of offsite, in accordance with applicable federal, state, and local rules and regulations. Excavated sediments will be stockpiled in the designated onsite sediment/soil containment pad to air dry in accordance with applicable air emission standards and be further solidified with a superabsorbent polymer, such as ZapZorb, and stabilized with pozzolanic additives. All TSCA-classified and hazardous soils will be identified prior to management and segregated from nonhazardous waste. Solidification and stabilization before disposal will comply with appropriate storage, treatment, and land disposal restriction regulations. The temporary sediment/soil containment pad along the northern boundary of the site will meet RCRA requirements for a remediation waste management unit called a staging pile or corrective action management unit and TSCA storage area requirements and will be used to store the excavated soils and sediment before offsite disposal. This area will also be used for equipment decontamination.

Additional TCLP, PCB, and underlying hazardous constituent sampling will be required to characterize the soil and sediment before being mixed with drying agents and disposed of by batch during the offsite disposal process. Details of transportation will be provided after final RCRA/TSCA characterization of the sediment and soil piles, as well as approval and selection of a disposal facility and transportation firm. The project is in compliance with this section because excavated sediment will be stabilized and possibly treated before removal from the site. The treated material will be disposed of in landfills according to applicable federal and state regulations.

#### ***7:7E-4.10 Filling.***

By definition, "filling" is the deposition of material including, but not limited to, sand, soil, earth, and dredged material, into water areas for the purpose of raising water bottom elevations to create land areas. This policy is not applicable to the project because the purpose of placing material on the site is not for raising the original water bottom elevations or to create additional land. Although the technical definition is not applicable, clean sand-fill material will be placed within the stream channel, lagoon, and berm areas following excavation as part of restoration activities to provide a substrate for the benthic community rehabilitation.

Following sediment excavation, a minimum of a 1-foot sand cover will be mechanically placed in the excavated streambed and lagoon areas to allow for establishment of the benthic substrate. It is anticipated that cover material will be placed in the excavated areas

of the eastern and southern berms to match the restored elevation of the eastern stream channel and southern ditch. This will aid in keeping the hydraulic characteristics of the contiguous channels stable.

With the addition of the UOP NTCRA “L Parcel” located contiguous to the western bank of the lagoon and forming the southern bank of the Northern Channel, it is proposed that following the removal of the impacted soil that only a 20’ strip running north/south and contiguous to the NJ Transit rail bed be backfilled with clean, compacted material and returned to pre-excavation elevations to form a competent right-of-way for NJ Transit track maintenance. The balance of the North Channel and “L Parcel” excavated areas would be backfilled with a minimum of 1-foot of clean coarse sand to serve as a benthic substrate material thereby forming a contiguous open water area with the Lagoon, Eastern Channel, Eastern Meander and Southern Ditch.

The area of the Northern Channel immediately east of the twin 48-inch diameter RCP stormwater pipelines will have either EnviroGrid GeoCell EGA-40G/aggregate filled or Fabriform concrete bank stabilization mats strategically placed for scour protection. These installations are designed to withstand the higher pipe discharge velocities from the upland stormwater catchment area and the Lowe’s parking lot runoff.

The project is in compliance with this rule because the purpose of the fill is not for raising water bottom elevations or for creating new land areas, and all fill will be clean sand.

#### **Subchapter 5. Requirements for Impervious Cover and Vegetative Cover for General Land Areas and Certain Special Areas**

The UOP site is within the Hackensack Meadowlands District, and therefore Subchapter 5 does not apply. Instead, the requirements set forth at N.J.A.C. 7:7E-3.45 and described in Section 3.2.2 apply.

#### **Subchapter 6. General Location Policies**

##### ***7:7E-6.2 Basic Location Rule.***

The project is in an area that is environmentally degraded and contains a monotypic plant community of phragmites. The site is not considered to be exceptional wildlife habitat and is not used by the public because it is both private property and a contaminated site. This project will improve public health and safety related to the site because contaminated sediments will be removed and replaced with new, clean sediments. No wetlands will be permanently disturbed during the remediation process. This project complies with this subchapter.

##### ***7:7E-6.3 Secondary Impacts.***

Secondary impacts are the effects of additional development likely to be constructed as a result of the approval of a particular proposal. Secondary impacts can also include traffic increases, increased recreational demand, and any other offsite impacts generated by onsite activities that affect the site and surrounding region.

Remediation of this site is not likely to stimulate secondary development because of its location within wetland and water body areas. Rather, the site’s designation as a Redevelopment District and New Jersey Meadowlands Commission’s zoning oversight are

more likely to directly promote development than remediation of the contaminated substrate. If a development were to be proposed, remediation would be required for that area. The project is in compliance with this rule because the only potential secondary impact would be an increase in temporary traffic patterns due to remediation activities. See Section 3.2.2 of this document for further detail on the New Jersey Meadowlands Commission requirements.

## Subchapter 7. Use Rules

### *7:7E-7.12 Dredged Material Placement on Land.*

Dredged material placement on land is the disposal or beneficial use of sediments removed during dredging operations. Beneficial uses of dredged material include, but are not limited to, fill, topsoil, bricks, and lightweight aggregate. This rule applies to the placement of dredged material landward of the spring high-water line. The standards for dredged material disposal in water areas are found at N.J.A.C. 7:7E-4.8. Dredged material placement on land is conditionally acceptable, provided that the use is protective of human health, groundwater quality, surface water quality, and manages ecological risks. Testing of the dredged material may be required as needed to assess the acceptability of the material's placement on a particular site. All potential releases of water from confined (for example, diked) disposal sites and rehandling basins shall meet existing State Surface Water Quality Standards (N.J.A.C. 7:9B) and State Groundwater Quality Standards (N.J.A.C. 7:9).

The sediment and soil treatment design includes activities occurring from the time the excavated material is dewatered and treated through offsite transport to an approved facility. A temporary staging area called the sediment/soil containment pad will be located along the northern boundary of the site and will be used to store excavated soils and sediment material as well as to stage equipment, material, and support facilities. This area will also be used for equipment decontamination. Proper erosion and sediment control devices will be implemented to prevent contamination to surrounding areas. Stockpiles will be covered with plastic sheeting to prevent wind-blown dispersion, precipitation run-on and runoff, the colonization of plants, and the potential uptake of contaminants. Dredged material will not be used for any purpose and will be disposed of offsite.

The project is in compliance with this rule because SE&SC measures will be installed to prevent soil from leaving the temporary stockpile area during storm events. In compliance with New Jersey Water Quality Standards, excess water will be treated before being discharged into Ackermans Creek. For further details, see the SE&SC Plan (Appendix B).

## Subchapter 8. Resource Rules

### *7:7E-8.4 Water Quality.*

The project lies within the Berrys Creek sub-basin of the greater Hackensack River watershed. The Berrys Creek sub-basin provides hydrology to Berrys Marsh and drains an area of approximately 7,686 acres.

The NJDEP Surface Water Quality Standards classify Berrys Creek as an FW2-NY/SE-2/C2 water body. The FW2 refers to those waters that are not classified as Freshwater 1 or Pinelands Waters. The SE-2 refers to saline waters of estuaries with the following designated uses: maintenance, migration, the propagation of natural and established biota, migration of

diadromous fish, maintenance of wildlife, secondary contact recreation, and any other reasonable uses. Finally, the C2 refers to all waters that are *not* designated as Category 1 or as Outstanding National Resource Waters.

Temporary impacts to the water quality of surface waters are possible as a result of siltation associated with earth movement and vegetative removal activities. These impacts would be monitored during construction of the project. The potential impacts to surface waters would be minimized by implementing SE&SC techniques as well as by dewatering the lagoons and excavating under dry conditions.

The NJDEP Ground Water Quality Standards classification system states the groundwater formation for the project area would be considered Class IIIB (“ground water with uses other than potable water supply”). Class IIIB groundwater does not meet the special ecological significance criteria of Class I groundwater formations, such as those that contribute to a freshwater Level 1 watershed or those located on state park lands. The project is not located over any New Jersey sole source aquifers. The use of appropriate prevention measures, as described in the *New Jersey Soil Erosion and Sediment Control Manual* (New Jersey Department of Transportation [NJDOT], 2009a) and the attached SE&SC Plan (Appendix B), would prevent groundwater contamination; therefore, no significant impacts to groundwater resources are anticipated.

The project is in compliance with this subchapter because any potential impacts to surface water and groundwater quality will be minimized by the use of soil erosion and sediment control techniques, as well as the dewatering of the upper portion of Ackermans Creek, to allow for excavation under dry conditions. Also, proper storage and disposal of all liquid products, including fuel, oil, and cleaning agents, as well as the immediate cleanup of any spill, will minimize adverse impacts.

It is anticipated that the construction means and methods employed will not have an adverse impact to water quality as the sediment will be removed “in the dry” and the installation of a tide gate effectively prevents surface water from entering the area of the NTCRA from Berrys Creek. In addition, water pumped from the lagoon within 12-18 inches of the sediment interface will be treated prior to discharge. The overall remediation project is designed to improve long-term water quality in the area.

#### ***7:7E-8.7 Stormwater Management.***

If a project or activity meets the definition of “major development” as defined in N.J.A.C. 7:8-1.2, the project or activity shall comply with the stormwater management rules at N.J.A.C. 7:8. “Major development” means any “development” that ultimately disturbs 1 or more acres of land or increases impervious surface by  $\frac{1}{4}$  acre or more. Although the project will disturb more than 1 acre of land, the definition of “development” is not met. “Development” means the division of a parcel of land into two or more parcels; the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any building or structure; any mining excavation or landfill; and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

The design basis for the UOP NTCRA Stormwater Conveyance uses a 1-year return frequency in accordance with NJDEP regulations. The estimated peak runoff into the North

Channel from the 100 acre up gradient catchment from a 1.25-inch, 2-hour storm event is ≈31.88 cfs (14,308 gpm) for the design stormwater flow conveyance alternatives.

Provision for the management of up gradient stormwater flows through the UOP NTCRA remedial areas will be accomplished with the installation of either temporary flumes (i.e., Portadam sections) or large diameter plastic corrugated stormwater pipe placed within the channels. The twin 48-inch diameter RCP stormwater pipelines that currently discharge into the Northern Channel will be temporarily extended into the Northern Channel to allow construction of a temporary road crossing contiguous to the NJ Transit rail bed.

#### ***7:7E-8.10 Air Quality.***

Mitigation for both fugitive dust and emissions is outlined within the attached SE&SC Plan (Appendix B) so that any potentially adverse effects can be managed quickly and corrected. Monitoring will verify levels of airborne contaminants, or lack thereof, migrating from the site and will provide a warning to onsite workers. Air monitoring will continue throughout the excavation and stockpiling activities. Monitoring will be conducted both upwind and downwind from these activities. Air-sampling methods will be certified by the National Institute for Occupational Safety and Health or the Occupational Safety and Health Administration, and samples will be analyzed by a laboratory that is accredited by the American Industrial Hygiene Association for the compound-specific method. Records of air-sampling results will be kept and maintained in a health and safety report. The project will meet the substantive requirements of this subchapter because air quality will be monitored and sampled and any potential issues will be managed accordingly. Air, odor and fugitive dust monitoring plans will be developed as part of the construction plans for the NTCRA project and are anticipated to comply with EPA and NJ DEP requirements.

#### ***7:7E-8.11 Public Trust Rights.***

Public trust rights to tidal waterways and their shores established by the Public Trust Doctrine include public access, which is the ability of the public to pass physically and visually to, from, and along lands and waters subject to public trust rights, as defined at N.J.A.C. 7:7E-3.50, as well as to use these lands and waters for activities such as swimming, sunbathing, fishing, surfing, sport diving, bird watching, walking, and boating. Public trust rights also include the right to perpendicular and linear access. Public access ways and public access areas provide a means for the public to pass along and use lands and waters subject to public trust rights.

Because this site falls under CERCLA, and access to the waterfront area for activities such as swimming, sunbathing, fishing, surfing, sport diving, bird watching, walking, or boating would pose an imminent risk to public health and safety, formal public access will not be provided. The nature of the project will be the cleanup of hazardous materials. No structural development is proposed. Furthermore, adjacent sites and water bodies are known to be contaminated and are listed as CERCLA sites.

#### ***7:7E-8.14 Traffic.***

There will be a temporary increase in vehicular and equipment traffic during the construction process. Measures will be taken to prevent delays to the New Jersey Transit rail system. No permanent impacts to the current traffic patterns are anticipated, and the project will comply with this policy.

### **7:7E-8.22 Solid and Hazardous Waste.**

The project will conform with all applicable state and federal regulations, standards, and guidelines for the handling and disposal of solid and hazardous wastes, including the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., the Solid Waste Management rules, N.J.A.C. 7:26, and the Hazardous Waste rules, N.J.A.C. 7:26G. See Section 3.1.8 for a summary of some of these state requirements.

The purpose of this project is to remediate the hazardous materials contained within the site. Investigations have been conducted to indicate potential contamination levels and provide data for designing remediation procedures, including treatment and disposal. Therefore, the project is in compliance with this subchapter.

### **3.1.2 Flood Hazard Area Control Act**

The purpose of the Flood Hazard Area Control Act (N.J.S.A. 58:16A) is to minimize damage to life and property from flooding caused by development within fluvial and tidal flood hazard areas, to preserve the quality of surface waters, and to protect the wildlife and vegetation that exist within, and depend upon, such areas for sustenance and habitat. The NJDEP Department of Land Use Regulation is the regulating agency for the Flood Hazard Area Program, under the Flood Hazard Area Control Act Rules N.J.A.C. 7:13.

The substantive requirements of a Flood Hazard Area Individual Permit will be need to be met because the project will require work within a regulated area and no Permit-By-Rule or General Permit exists for this type of activity.

Substantive requirements will likely include information on planned activities that are reasonably related to the proposed project that have the likelihood of impact on channels and riparian zones, and their potential to adversely affect flooding and the environment.

### **ARAR Compliance Actions**

Two subchapters in this regulation may pertain to the UOP NTCRA remediation, as summarized below.

### **Subchapter 10. Individual Permit Requirements Within Various Regulated Areas**

#### ***Section 7:13-10.1 addresses requirements for a regulated activity in a channel.***

The remediation of substrate requires in-channel activity to remove the contaminated sediments and improve the ecological health of the regulated waters. A tide gate at Murray Hill Parkway, as well as stormwater diversion pumps and piping, will be installed to prevent flow into the four channels. The tide gate and diversion pumping and piping will allow the channels to be drained so that there is minimal water within the channels, which will reduce the potential for contaminants to flow downstream into work areas or be affected by tidal flows.

To minimize operating equipment within the channels, the proposed temporary stream crossing of Ackermans Creek to access the lagoon will occur by a bridge. Equipment mats will be placed on the sides of the channels and the lagoon to allow the equipment to excavate sediment along the banks and within the channels.

The northern channel, eastern channel, Southern Ditch, and eastern channel meander will be backfilled using a minimum of 1-foot of clean coarse granular fill. Disturbed sections of the

channels will be properly stabilized. Geogrid will be installed along the channel banks to secure loose sediments and prevent erosion. The eastern and southern lagoon berms will be reduced in height to allow the restored lagoon to become tidally influenced and a part of the surrounding wetlands.

Phragmites is the dominant plant species within the project area. Because of its invasive behavior, it will not be replanted. The phragmites is expected to re-inhabit the area independently.

## Subchapter 15 Application Requirements

*Section 7:13-15.5 addresses engineering calculations and requirements to be documented in an Environmental Report.*

The project is required to be in compliance with the following guidelines.

Adverse impacts to the following resources are not anticipated: channels, riparian zones, fishery resources, threatened and endangered species, and regulated waters. This project is in compliance with the channel requirements set forth by N.J.A.C. 7:13-10.1 (see 7:13-10.1). Fishery resources also are not anticipated to be affected due to channel blockage of the tide gate. The tide gate will also prevent contaminated water or sediments from flowing into Berrys Creek. Ackermans Creek does not have any fishery resources but does flow into Berrys Creek, providing the potential for aquatic species to forage in the channel.

Threatened and endangered species surveys will not be required following consultations with the New Jersey Natural Heritage Program, USFWS, and NMFS, who determined that there were no known species within the project location. See Section 2.1.3 of this document for further threatened and endangered species information.

The contractor will monitor water quality, and the attached SE&SC Plan (Appendix B) will be implemented to prevent adverse impacts to water quality to the extent practicable. Turbidity will be controlled by a tide gate that will prevent tidal influences that could disturb remediation activities. The project will comply with the guidelines of the environmental report because, as described previously, there will be minimal adverse impacts to the area once the project is completed and allowed to revert to original ecological conditions.

### 3.1.3 Tidelands Act (N.J.S.A. 12:3 Article 1. Leases, Grants and Conveyances)

Tidelands, also known as riparian lands, are those lands currently or formerly flowed by the mean high tide of a natural waterway. These lands are owned by the people of the State of New Jersey, unless a Tidelands Grant has been provided. As a result, permittees must obtain permission from the State, in the form of a tidelands license or lease, to use these lands.

The NJDEP Bureau of Tidelands Management determines the rights of the State and of the riparian owners in the lands lying under the Bay of New York and elsewhere in New Jersey. A tidelands grant or tidelands lease would be required for the proposed project. A tidelands grant is a deed from the state of New Jersey selling its tidelands. A tidelands license is a project-specific, short-term, revocable rental document.

## ARAR Compliance Action

The project is within a currently or formally flowed area shown on NJDEP Tidelands maps 721-2160. Therefore, a request was made to the Bureau of Tidelands Management for evidence of tidelands ownership.

In accordance with the request made to the Bureau of Tidelands Management, it was confirmed that a tidelands grant was previously issued and the State of New Jersey ceded its interest in the grant for the site.

Title claim information for Block 105.1, Lot 8 is as follows: Consent Judgment Quieting Title, Universal Oil Products Company v. State of New Jersey, Superior Court of New Jersey, Law Division – Bergen County. Docket No. L-7420-75, County Docket No. 83-8240, May 27, 1986, Files: 70-0231, 0232 8 0233, (3 Tracts). Bergen County Deed Book 7029, PGS 400-411. (Map: 721-2160 and 721-2154), see Appendix A.

### 3.1.4 NJPDES General Permits

The substantive requirements of the NJPDES which are potentially applicable to the NTCRA include the three general NJPDES permits discussed below.

#### 3.1.4.1 Construction Dewatering Discharge General Permit

The NJDEP Division of Water Quality, Bureau of Surface Water Permitting, is the agency that issues Permit No. NJ0134511 – Construction Dewatering Discharges General Permit. This general permit authorizes the discharge of groundwater for the purposes of lowering the water table during construction. This general permit is intended for short-term discharges containing negligible levels of pollutants. The discharge must not contain toxic pollutants in toxic amounts, as defined in the New Jersey Water Pollution Control Act and must not exceed the New Jersey Surface Water Quality Criteria (N.J.A.C. 7:9B-1.14 et seq.). In addition, the discharge must not contain any scum, foam, residual matter, sheen, odor, or objectionable color.

The discharge must not cause or result in erosion to the area of the discharge or the surrounding stream banks. Adequate dewatering structures and velocity dissipation devices should be used when necessary to prevent and minimize erosion, stream scouring, and increase in turbidity.

## ARAR Compliance Actions

In Section E.g. the general permit states the following discharges are specifically excluded from authorization under this permit “Discharges in any way associated with site remediation activities, including groundwater from any site adjacent to a site either needing water or soil remediation or undergoing site remediation or petroleum products cleanup.” Another exclusion in Section E.m. states that “polluted water resulting from construction dewatering activities” are prohibited. In addition, this general permit applies to groundwater dewatering and does not say it is applicable for surface water dewatering, therefore the provisions of this permit do not appear to be directly applicable to the NTCRA project since discharges for this project are associated with remediation and include dewatering of a surface water body (not groundwater for the purposes of lowering the water table during construction). However, to ensure that appropriate requirements are

identified and met and in order to avoid potential enforcement actions, the NJ DEP Division of Water Quality (609) 292-4860 will be consulted.

The erosion control requirements stipulated under this general permit are similar to those stipulated under the Discharge to Surface Water for Remediation Cleanup General Permit. These requirements and the associated ARARs are discussed under Section 3.1.4.2 and would also be used to demonstrate compliance with the Construction Dewatering Discharge General Permit if applicable.

### 3.1.4.2 Discharge to Surface Water for Remediation Cleanup General Permit

The NJDEP Division of Water Quality, Bureau of Surface Water Permitting is the agency that issues Permit No. NJ0155438 – Discharge to Surface Water for General Remediation Clean-up (Category BGR). This general permit authorizes treated groundwater discharges to eligible surface waters of the state (such as FW2-NT, FW2-TM, FW2-TP, SE or SC). It is effective from July 1, 2010 until June 30, 2015. All surface water discharges must comply with the New Jersey Surface Water Quality Criteria (N.J.A.C. 7:9B-1). In addition, the discharge must not contain any scum, foam, residual matter, sheen, odor, or objectionable color. Monitoring will be required at the outfall location. For new authorizations, a chronic whole effluent toxicity limit may be imposed. Other parameters and effluent limitations include flow, total suspended solids, total organic carbon, oil and grease, metals, VOCs, semivolatile organic compounds (SVOCs), PCBs and pesticides listed in the permit requirements.

#### ARAR Compliance Actions

Discharge of treated effluent to a surface water body located on a CERCLA site does not require an actual permit, but rather the substantive requirements of these permits must be met. In this case, the substantive requirements include the prevention of pollution to groundwater and surface water and are described in detail below. To ensure that appropriate requirements are identified and met and in order to avoid potential enforcement actions, the NJ DEP Division of Water Quality (609) 292-4860 will be consulted.

As part of the NTCRA remediation activities, the following discharges to surface water are anticipated:

- **Lagoon Dewatering.** As described previously, the lagoon will be dewatered to within approximately 12 inches of the lagoon bottom. Previous sampling indicates that the lagoon water is not impacted. To ensure that discharge water meets the surface water criteria, water samples will be collected from the lagoon prior to dewatering. If the results are below the criteria, then the water will be discharged under NJ0155438. If sampling indicates unacceptable impacts then the water will be treated to meet water quality standards prior to discharge. The remaining approximately 12 inches of water will be directed to the temporary 300-gpm onsite water treatment system that may require more robust unit operations. Following treatment, the water will be held in an approximately 21,000-gallon frac tank and will be sampled for compliance with New Jersey's Surface Water Criteria (Appendix C).
- **Construction and Site Excavation Water.** Two sump areas will be established within the dewatered lagoon area for the installation of two electric submersible pumps to transfer collected water to the temporary 300-gpm onsite water treatment system. Following

treatment, the water will be held in an approximately 21,000-gallon frac tank and will be sampled for compliance with New Jersey's Surface Water Criteria (Appendix C) before being discharged into Ackermans Creek. As mentioned above, the planned outfall location is into Ackermans Creek just east of the confluence with the eastern meander channel and within the UOP site boundary.

Samples representative of the discharge produced from each of these activities will be collected according to a detailed Surface Water Discharge Monitoring Plan prepared for use at the site.

Erosion control measures, as described in the SE&SC Plan (Appendix B) will be established before dewatering activities begin.

### 3.1.4.3 Stormwater Pollution Prevention from Construction Activities

The NJDEP Division of Water Quality, Bureau of Nonpoint Pollution Control, is the agency that issues NJPDES Permit No. NJ0088323 – Construction Activities Stormwater General Permit (5G3). The substantive requirements of this permit include requirements for the prevention of pollution of groundwater and surface water.

Three storm drains run under the Uplands and discharge to OU2:

- **Northern storm drain.** A storm drain in the northwestern part of the OU2 that runs perpendicular to Ackermans Creek, draining the Matheson Gas Products property and others to the north, as well as the Uplands. This storm drain discharges to the Ackermans Creek stream channel north and east of the lagoon. This north-south trending drain is a 60-inch-diameter reinforced-concrete pipe.
- **Western storm drain.** This storm drain runs parallel to Ackermans Creek in the western part of OU2 and discharges into the stream channel north of the lagoon. Most flow from this drain proceeds southward to the main channel of Ackermans Creek. These drains consist of reinforced-concrete pipes that convey stormwater from the UOP Uplands and from properties to the west of the UOP site, opposite Route 17.
- **Southern storm drain.** A third storm drain, located in the southwest part of the Streamlands, discharges to a channel south of the UOP boundary that is in hydraulic communication with Ackermans Creek. This storm drain consists of 36-inch-diameter reinforced-concrete pipe that conveys stormwater from the west side of Route 17).

### ARAR Compliance Actions

To comply with the substantive requirements of this permit, a Stormwater Pollution Prevention Plan (SPPP) will be prepared before beginning construction at the site. The SPPP will contain a construction site waste control component, addressing the following:

- Material management to prevent or reduce waste
- Waste handling
- Spills, discharges of hazardous substances, and federally reportable releases

These activities will be conducted in accordance with the provisions set forth in Section J.2 through J.4 of General Permit No. NJ0088323.

Throughout construction, routine site inspections will be conducted and documented to identify areas contributing to stormwater discharge, as well as to evaluate whether the SPPP and BMPs are being properly implemented and maintained. Any instances of noncompliance will be remedied as soon as practicable, and steps will be taken to prevent recurrence.

Provision for the management of up gradient stormwater flows through the UOP NTCRA remedial areas will be accomplished with the installation of temporary flumes (i.e., Portadam sections) or large diameter plastic corrugated stormwater pipe placed within the channels. The twin 48-inch diameter RCP stormwater pipelines that currently discharge into the Northern Channel will be temporarily extended into the Northern Channel to allow construction of a temporary road crossing contiguous to the NJ Transit rail bed.

This will prevent stormwater from coming into contact with the active contaminated excavation area and will allow the excavation to be performed in the “dry.” The stormwater discharge is not expected to contain contaminants because it will not be coming into contact with the active sediment remedial areas.

As discussed previously in Section 3.1.1, the design basis for the UOP NTCRA stormwater conveyance uses a 1-year return frequency in accordance with NJDEP regulations. The estimated peak runoff into the North Channel for the 100 acre up gradient catchment from a 1.25-inch 2-hour storm is 31.88 cfs (14,308 gpm) for the design stormwater flow conveyance alternatives described above.

A similar method will be used to convey the stormwater entering the site through the 36-inch RCP – also in the Northern Channel - and the 43-inch x 68-inch elliptical RCP located to the west of the Southern Ditch and beneath the Meadowlands Rail Spur. The stormwater runoff from the twin 48-inch RCP’s as well as 36-inch RCP will be diverted to the proposed articulated pre-fabricated mat located to the east of the Eastern Meander. The stormwater runoff from the twin 27-inch x 42-inch elliptical RCP’s will be diverted to the Southern Channel.

However, should there be a storm event that exceeds the 1-year storm event design basis, prior to the anticipated storm event all excavation equipment will be removed from the streambed and lagoon areas permitting safe transmission of the stormwater to through Ackermans Creek and Berrys Creek. Type II Turbidity Curtains will be maintained within the non-remedial areas of Ackermans Creek (east of Murray Hill Parkway) to aid in the mitigation of turbidity conditions.

Following the storm event, ponded water within active excavation area will be pumped to the 300 GPM Water Treatment Plant for processing and directed to a 21,000 gallon-frac tank and sampled for compliance with New Jersey’s Surface Water Criteria (Appendix C) before discharge to Ackermans Creek under the Remediation Cleanup Discharge to Surface Water Permit or an individual NPDES permit.

### 3.1.5 Treatment Works Approvals

The NJ DEP Division of Water Quality, Bureau of Financing and Construction Permits administers a Treatment Works Approval (TWA) program which regulates the construction and operation of industrial and domestic wastewater collection, conveyance and treatment

facilities including treatment plants, pumping stations, interceptors, sewer mains and other collection, holding, and conveyance systems. The program is aimed at protecting the waters of the state by preventing the entry of increased pollutants from inadequate facilities.

TWAs are typically issued after a NJPDES permit has been obtained. For this Project, a temporary 300-gpm onsite water treatment system is proposed to treat wastewater resulting from NTCRA activities. While a TWA does not need to be obtained for this system, the substantive technical requirements of N.J.A.C. 7:14A-22 and 23 will still need to be met. The section below describes how the design and operation of the proposed treatment systems will meet these requirements.

### **ARAR Compliance Actions**

The temporary 300-gpm onsite water treatment system will be operated by a qualified operator, licensed in the state of New Jersey in accordance with N.J.A.C. 7:10A-1.1. An operations and maintenance manual containing system procedures and emergency procedures will be prepared for use onsite during the NTCRA.

The system will be design and operated in accordance with the following applicable technical requirements set forth in N.J.A.C. 7:14A-23.13 – Wastewater Treatment Plants:

- The design of the proposed treatment system will be adequate to meet all NPDES or NJPDES permit requirements, and will take into consideration the topography of the plant site, receiving waters, operating costs and effects of any industrial waste component.
- The treatment plant will be designed to produce an effluent which will consistently meet the limitations specified in the applicable NPDES or NJPDES permit and be conducive to the attainment and maintenance of such water quality criteria for the various classifications of surface and ground waters of the State.
- Siting requirements will include:
  - The treatment plant will be located as far from existing or future residential structures as practical;
  - To the extent possible, the treatment plant unit will not be situated within 500 feet of the site property lines. The treatment plant will be raised above the flood elevation level, or adequately flood proofed.; and
  - The plant layout will be designed for ease of operation, safety and accessibility.
- The treatment plant site will be appropriately graded.
- The following safety features will be incorporated into the treatment plant design:
  - At a minimum, railings, guards, and handrails will be provided;
  - Non-slip treads on stairs will be provided;
  - Warning signs will be posted in hazardous locations;
  - A readily accessible first aid kit will be provided; and

- The plant site will be secure and enclosed by a fence with lockable gates.
- The treatment plant will be provided with an adequate auxiliary source of power that is capable of maintaining the necessary plant functions to assure compliance with the facility's NJPDES permit.
  - When a plant is not staffed on a 24-hour basis, the auxiliary source of power will have the ability to be automatically activated.
  - Emergency generators will be tested regularly and maintained in proper working order at all times.
- An alarm system operating on an independent source of power will be provided for the treatment plant when 24-hour supervision is not provided.
  - The alarm system will extend to a police station or other location where competent 24-hour assistance can be obtained in an emergency.
- All electrical equipment work will comply with the Fire Underwriters' regulations and with the National Electrical Code.
- Adequate means will be provided for dewatering the treatment unit for inspection and maintenance while still maintaining NJPDES permit compliance.
- The plant will be operated under the oversight of a NJDEP N-2 Licensed Operator.

### 3.1.6 New Jersey Division of Wildlife, Bureau of Freshwater Fisheries

A water-lowering permit allows an entity to partially or completely lower a body of water, regardless of ownership. The New Jersey Division of Wildlife, Bureau of Freshwater Fisheries, is the agency authorized to administer water-lowering permits pursuant to N.J.S.A. 23:5-29 and N.J.A.C. 7:25-6:25.

#### ARAR Compliance Requirements

The Bureau of Freshwater Fisheries must be contacted to begin to develop a water-lowering plan, and application must be completed as well. Approval is based on whether fish, turtles, and other aquatic biota will be adequately protected. Certain variables are particularly important in evaluating the impact of a lowering on aquatic biota – time of year, duration, extent of drawdown, and depth from which the water is released. Fish must be salvaged (collected and relocated) when a water body is completely drained or lowered beyond the extent able to support fish. However, as directed by EPA and the U.S. Fish and Wildlife Service no fish will be collected and relocated at this CERCLA site due to contaminant levels present in the fish. Any collected fish will be disposed of with the contaminated sediment at the direction of EPA.

If needed, a water-lowering plan will be developed in coordination with the New Jersey Division of Wildlife, EPA, and the USFWS. Specific compliance measures to be included in this Plan are currently being developed to satisfy the substantive requirements of this permit. These measures will be documented in the final design and construction-related documents for the NTCRA. These will be provided to NJDEP under separate cover, as appropriate.

### 3.1.7 Hazardous Waste Management

RCRA and the associated regulations were established for waste identification, tracking, shipping, treatment, disposal, and recordkeeping. Hazardous waste management is often a critical or key ARAR at CERCLA site remediations for both onsite and offsite actions. Effective August 2, 1999, NJ DEP was authorized to administer the federal hazardous waste program, under the authority of RCRA. The New Jersey Hazardous Waste Regulations are set forth at N.J.A.C. 7:26G and with some noted exceptions incorporate the federal RCRA regulations by reference.

Some of the key ARARs associated with the hazardous waste management requirements are described in the sections below. The RCRA regulations are complex, so requirements will need to be reviewed with EPA and NJDEP for incorporation into final design details.

#### Waste Characterization and Generation

Generators are required to identify each waste that they generate and determine all applicable hazardous waste listings and characteristics. A waste is considered a hazardous waste if:

- It exhibits any of the characteristics of
  - ignitability,
  - corrosivity,
  - reactivity, or
  - toxicity, or
- It is listed as a hazardous waste based on original chemical use and spill and release history.

The toxicity characteristic is determined by running a TCLP analysis on the waste and comparing to regulatory levels.

Listed wastes are:

1. Wastes generated by certain processes (e.g., F-listed spent solvents and K-listed wastes) or
2. Certain commercial chemicals products and spill residues (U- and P-listed wastes).

Environmental media (soil, groundwater, surface water) become a waste when they are removed and in certain cases when actively managed or treated onsite. Environmental media become subject to hazardous waste regulations when they contain a listed waste or exhibit a characteristic of hazardous waste. Listed hazardous wastes are managed more rigorously than characteristic and have more onerous handling and management requirements.

Where a facility owner/operator makes a good faith effort to determine if a material is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive, EPA has stated that one may assume the source, contaminant or waste is not listed hazardous waste. The generator (and EPA at Superfund cleanups) will use available site

historical information such as manifests, storage records, and vouchers to ascertain the sources of wastes or contaminants, but when this documentation is not available or inconclusive the generator and EPA may assume that the wastes (or contaminants) are not listed RCRA hazardous wastes. (See 53 FR 51444, December 21, 1988 for proposed NCP preamble discussion; 55 FR 8758, March 13, 1990 for final NCP preamble discussion).

### Land Disposal Restriction Treatment Standards

Soil destined for land disposal that is contaminated with characteristic hazardous waste is subject to land disposal restriction (LDR) if it exhibits a hazardous waste characteristic when it is excavated. Therefore, representative sampling and analyses need to be performed using the TCLP for toxicity characteristics and analytical methods for identifying underlying hazardous constituents (UHC) likely to be present in the waste. This list of potential UHC is found in 40 CFR 268.48.

The LDR treatment standards for contaminated soil containing hazardous waste at the time it is excavated are presented in 40 CFR 268.49. These treatment standards require that contaminated soil that will be land disposed (either onsite or at an offsite disposal facility) be treated to reduce concentrations of hazardous constituents by 90 percent or meet hazardous constituent concentrations that are 10 times the universal treatment standards (UTS) in 40 CFR 268.48, whichever is greater. This is typically referred to as the alternative treatment standards consisting of “90 percent removal capped at 10 times the UTS.” The soil treatment standards apply to all UHCs reasonably expected to be present in any given volume of contaminated soil when such constituents are found at initial concentrations greater than 10 times the UTS.

PCBs in soil are addressed under RCRA’s LDR regulations in 40 CFR 268.32, which describes prohibitions for land disposal. Specifically, hazardous waste soil exhibiting the toxicity characteristics for metals (D004-D011) that also contain PCBs must be treated before land disposal. Additionally, RCRA subsection 40 CFR 268.44(g)(3) describes a treatability variance that may be applied to PCB-contaminated soil based on risk-based alternative treatment standards.

### Onsite Storage and/or Treatment of Excavated Sediment and Soil

This section discusses three RCRA ARARs related to onsite storage and treatment of excavated soil and sediment: the Area of Contamination (AOC) Policy; the Staging Pile; and the corrective action management unit (CAMU).

EPA has an interpretation of RCRA at remediation sites, called the AOC Policy, which allows certain discrete areas of generally dispersed contamination to be considered RCRA units. Because of the AOC Policy, consolidating and *in situ* treatment of hazardous waste within the AOC do not trigger the LDR treatment standards and the RCRA unit minimum technological requirements (for example, landfills, waste pile design requirements). Note that hazardous remediation waste is generated when it is removed from the AOC. In other words, if the remedy involves consolidating remediation waste from separate noncontiguous contaminated areas or placement in “clean” areas of the site, the AOC Policy cannot be used, but a staging pile can (discussed below).

The EPA concept of a staging pile (40 CFR 264.554) is a more-temporary solution for stockpiling and handling hazardous remediation waste before offsite disposal and

treatment. A staging pile is defined as “an accumulation of solid, non-flowing remediation waste that is not a containment building [specifically defined in 40 CFR 260.10] and this is used only during remedial operations for temporary storage at a facility.” Remediation waste can be placed in a staging pile and avoid illegal land disposal. Storing waste in a staging pile does not have to meet LDR treatment standards before placement in the staging pile and it is not considered a RCRA unit subject to the minimum technological requirements. For purposes of staging piles, “storage” includes mixing, sizing, blending, or other similar physical operations as long as they are intended to prepare the wastes for subsequent management or treatment. Wastes are only temporarily stored in a staging pile and once removed from a staging pile will become subject to LDR treatment standards, unless moved to a CAMU.

The design standards for a staging pile must facilitate a reliable, effective, and protective remedy. They include:

- Preventing or minimizing releases of hazardous wastes and hazardous constituents into the environment, and minimizing or adequately controlling cross-media transfer, as necessary to protect human health and the environment (for example, through the use of liners, covers, runoff/run-on controls, as appropriate)
- A 2-year time limit from the date the first drop is placed in the pile
- Professional engineer certification of the design drawing and specifications and technical data
- Additional requirements for ignitable, reactive, and incompatible waste
- Any additional information EPA deems necessary to be protective of human health and the environment
- “Clean closure” after operation if it is located in an uncontaminated area

Typically, the EPA or NJDEP approve the use of the staging pile. This is often designated in a Remedial Action Plan or order.

### **Offsite Transportation Requirements**

Before receiving waste, a commercial offsite waste disposal facility will require a “waste profile” or statement to be signed by the generator (in this case, Honeywell) identifying the appropriate hazardous waste codes and shipping description. For shipments of hazardous waste offsite, the Uniform Hazardous Waste Manifest (EPA Form 8700-22) is the required Department of Transportation shipping paper. A bill of lading is the shipping paper for non-hazardous waste.

The LDR notification form is required to accompany the first shipment of each hazardous waste type. A generator of hazardous waste must determine if the waste has to be treated before it can be land-disposed. This is done by determining if the hazardous waste meets the LDR treatment standards. This assessment can be made concurrently with the hazardous waste evaluation by testing the waste or using generator knowledge of the waste. The determination is recorded on a LDR notification form that accompanies the first waste shipment and identifies the appropriate treatment standards that must be achieved by the commercial disposal facility before placement in their landfill. As mentioned, there are

alternative LDR treatment standards for hazardous waste soil that are less stringent than treatment standards for industrial waste with the same contaminants.

### **ARAR Compliance Actions**

This site is currently a large-quantity generator of hazardous waste and is assigned EPA identification number NJD002005106.

### ***Waste Identification and Characterization***

To the best of CH2M HILL's knowledge, the source of the detected constituents in the groundwater, surface water, soil, and sediment has not been identified by Honeywell as "listed" hazardous waste. Based on in-ground data, it is expected that materials excavated from the northern and eastern channels will be disposed of as RCRA toxicity characteristic hazardous waste and TSCA PCB waste, and that some portion of the lagoon and the southern berm will be disposed of as RCRA toxicity characteristic hazardous waste.

A Sampling and Analysis Plan will be prepared before implementing the NTCRA. The sampling will occur once the sediment or soil is placed in the sediment/soil containment pad to determine its "as generated" concentrations. Representative soil and sediment samples from the sediment/soil containment pad are to be analyzed using the TCLP, as well as methods to identify other possible underlying hazardous constituents and PCBs, before staging or mixing with dewatering or other drying agents to determine if they exhibit hazardous waste characteristics at the point of generation (that is, once removed from the ground).

RCRA prohibits dilution of hazardous waste as a substitute for adequate characterization. To ensure that this project complies with the PCB waste regulations, in-situ data will be used to establish the "as found" concentration and appropriate disposal classification.

### ***Land Disposal Restriction Treatment Standards***

The Sampling and Analysis Plan will also address sampling requirements to verify compliance with LDR treatment standards if wastes are to be sent to non-RCRA and non-TSCA permitted landfills (municipal landfills).

### ***Onsite Storage and/or Treatment of Excavated Sediment and Soil***

The lagoon and stream channels meet the definition of an AOC, and sediments exhibiting hazardous waste characteristics within the lagoon and channels may be consolidated within the lagoon and channel boundaries and within the designated slack drying cell.

The sediment/soil containment pad would be considered a RCRA staging pile or a CAMU depending on whether treatment to meet LDR alternative treatments standards for soil is performed in the unit before offsite disposal. If sediment and soil are placed in the sediment/soil containment pad simply for dewatering and mixing with drying agents before offsite disposal at a TSCA- and RCRA-permitted landfill, a staging pile would be appropriate. A CAMU would be appropriate if the intent is to treat sediment and soil to levels below the LDR treatment standards for characteristic hazardous waste and the UHCs before disposal offsite at non-hazardous waste landfill (provided PCBs levels are less than 50 ppm).

If onsite treatment is conducted in the sediment/soil containment pad, verification sampling will be required after treatment to ensure concentrations are below the toxicity characteristics TCLP regulatory levels and the LDR alternative treatment standards for soil in 40 CFR 268.49.

### ***Offsite Transportation Requirements***

Before offsite disposal of any waste, a waste approval package for each waste stream will be prepared. This package will include a waste profile naming Honeywell as the generator of the waste, analytical summary table(s) applicable to the waste, LDR notification for hazardous wastes, a completed waste shipping paper or manifest, and any other applicable information necessary. The Honeywell-signed waste profile will then be submitted to the offsite disposal facility for acceptance and approval. Once the approval letter is received from the offsite disposal facility, transportation can be scheduled.

Honeywell is the generator of the waste and will sign the shipping papers, such as manifests or bills of lading, as the generator or delegate the signature authority in writing to another party acting on their behalf and as their agent.

Hazardous soil treated to below the LDR treatment standards can be sent offsite to a non-hazardous waste landfill, as long as PCB concentrations are below 50 ppm. If PCB concentrations are above 50 ppm, the soil must go to a TSCA-permitted commercial landfill. If hazardous soil is not treated to below the LDR treatment levels, it can be sent to a hazardous waste and TSCA-permitted landfill for treatment and disposal.

## **3.1.8 Dust**

Dust, also known as particulate matter, is a criteria pollutant regulated on a State level. Emission of particulate matter in most cases must be permitted. The NJDEP Division of Air Quality, Permitting Group grants permits and operating certificates for particulate matter emissions, according to Title 7:27 of the N.J.A.C.

In New Jersey, equipment considered to be a significant source of dust generation is typically required to obtain a preconstruction permit and operating certificate. The substantive requirement of this permit is to prevent dust (particulate matter) from becoming injurious or interfering with the life of another property owner or prohibiting the enjoyment of that property.

### **ARAR Compliance Actions**

Fugitive dust generated from construction, excavation, and stockpiling activities does not typically require a permit or certificate so long as all the work is performed by mobile machinery. Since stationary equipment are not planned on being used at the site this particular requirement is not triggered for the NTCRA. However, good dust suppression practices will be implemented during the NTCRA, such as watering of roads and storage piles to minimize fugitive dust emissions. Particulate monitoring at the site boundary will also be conducted to ensure that fugitive dust is not an issue.

## **3.1.9 Odor**

In certain cases excessive odor caused by a process can require a permit and operating certificate. The NJDEP Division of Air Quality, Permitting Group grants permits and

operating certificates for odors, according to Title 7:27 of the N.J.A.C. In New Jersey, processes that produce excessive odor must obtain a preconstruction permit and operating certificate.

The substantive requirement of this permit is to prevent excessive odor from becoming injurious or interfering with the life of another property owner or prohibiting the enjoyment of that property.

### **ARAR Compliance Actions**

Construction operations typically do not necessitate a permit for odor. If it is concluded that odor control is needed due to VOC, petroleum, or other odors, then the substantive requirements of the permit will be met. Odor control measures will be implemented as part of the NTCRA and odors will be monitored at the site boundary.

### **3.1.10 Discharge Prevention, Containment and Countermeasures**

Compliance with the discharge prevention, containment, and countermeasure program may also be also required by the State of New Jersey, Bureau of Release Prevention. The purpose of the DPCC Plan is similar to that of the SPCC Plan, except that the DPCC also targets hazardous substances (listed in 7:1E Appendix A). DPCC is applicable if the site stores more than 20,000 gallons of hazardous substances, excluding petroleum products, or 200,000 gallons of hazardous substances with petroleum products. The regulations are in N.J.A.C. 7:1E, *Discharge of Petroleum and Other Hazardous Substances*.

### **ARAR Compliance Actions**

If the collection of wastewater from dewatering contains hazardous substances, such as organic or inorganic chemical contaminants (such as VOCs, SVOCs, PCBs, pesticides, metals), and the aggregate total storage capacity contained is greater than 20,000 gallons, this regulation could apply to the UOP site. However, there are no plans at this time for collecting water at the site. Should the need arise, onsite storage would meet the substantive requirements for this regulation.

Key provisions include testing and inspection of aboveground storage tanks, assuring adequate secondary containment, high level alarms, training employees, maintaining security, keeping required records, developing standard operating procedures, and related requirements as described in the regulation. The requirements are also to ensure that response plans, trained personnel, and adequate quantities of emergency equipment are at hand should an incident occur.

Mobile or portable storage tanks shall be positioned or located so as to be protected by secondary containment or diversion structures designed and built pursuant to the requirements in 7:1E-2.6 *Facility Drainage and Secondary Containment*.

Facilities must also document their compliance by preparing two plans under the direction of a registered New Jersey-registered professional engineer: a DPCC plan and a Discharge Cleanup and Removal Plan. Preparing the written procedures and plans would be considered a requirement at a CERCLA site in order to demonstrate that the substantive requirements of the regulations were met. Submittal to and approval from the NJDEP would be considered an administrative requirement and not necessary at a CERCLA site.

### 3.1.11 Spill or Discharge Notification

Reporting a discharge of a hazardous substance is required in N.J.A.C. 7:1E-5. This includes calling the toll-free NJDEP emergency line at 1-877-WARNDEP (1-877-927-6337), which is available 24 hours a day, 7 days a week. If this number is inoperable, any person or persons responsible for a discharge shall immediately notify the State Police at (609) 882-2000.

Discharges must be reported within 15 minutes, as explained in the regulation. A written discharge confirmation report must also be sent to NJDEP. This generally applies to any quantity of a hazardous substance discharged onto land or into water.

In addition, any surface water quality criteria non-compliance during discharge must be reported by calling the DEP hotline at 1-877-WARNDEP (N.J.A.C. 7:14A-6:10).

#### ARAR Compliance Actions

In the event that spills or non-compliant discharges occur during the NTRCRA, they will be reported in accordance with applicable regulations.

### 3.1.12 Air Emissions Requirements

The Clean Air Act (CAA) is the primary federal legislation established to protect air quality. The CAA regulates emissions from stationary sources, including facilities, structures, and operations that emit air pollutants. The National Ambient Air Quality Standards (NAAQS) (40 CFR 50) define the air quality concentration levels adequate to protect public health/welfare for common air pollutants such as sulfur oxides, particulate matter, carbon monoxide, ozone, nitrogen oxide, and lead. The States have the primary responsibility of meeting (attaining) those emission limitations. New Jersey has incorporated the NAAQS into its regulatory requirements that control and prohibit air pollution by various types of contaminants. Examples of toxic air pollutants include dioxins, benzene, arsenic, beryllium, mercury, and vinyl chloride. Control programs to meet the NAAQS for ozone and PM-10 also reduce toxic air pollutant emissions because many toxic air pollutants are emitted in the form of particulates or as VOC. Therefore, if toxic pollutant air emissions are present at CERCLA sites, the site may be subject to the NAAQS, depending on the attainment status of the state in which the remediation project is being completed.

EPA has classified New Jersey as having “nonattainment” status for ozone and fine particulate contamination. In an effort to reach “attainment” status, NJDEP has established regulations for the control and prohibition of pollution several types of air contaminants and implements the federally mandated operating permit program for major facilities. Additionally, NJDEP manages air quality at remediation sites by implementing ambient air monitoring, emission source inventories, emission reduction plans, regulatory enforcement, issuing permits, stack testing requirements, air quality modeling and risk assessment, as applicable.

#### Compliance with Federal and State Requirements

Many of the CAA’s provisions and regulations are only applicable to “major” facilities including the New Source Performance Standards (NSPS) (40 CFR 60) and the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR 61). The NSPS are established source categories, most of which are related to specific industrial activities, which do not include this type of site remediation activity. Therefore, based on current

design plans, the NSPS are not applicable to this project. The NESHAPs are applicable to CERCLA remediation projects because site remediation falls under the waste treatment and disposal industry group. To assess the applicability of federal and New Jersey air regulations, the potential-to-emit (PTE) emissions must be estimated for the operation. The PTE is the maximum aggregate capacity of a stationary source operation or of a facility to emit an air contaminant under its physical and operational design. Unless otherwise indicated, source-related fugitive emissions shall be included in the determination of PTE (NJAC 7:27-8 and 40 CFR 70.2).

Major facilities are required to adopt emission controls in accordance with the NESHAPs. To determine if the project meets the definition of a major (Title V) or minor facility, the PTE must be compared against the major facility thresholds in accordance with NJAC 7:27-8.1.

The NJDEP Operating Permits Section implements the federally mandated operating permit program for major facilities. It is anticipated that the PTE emissions from the remediation project will be significantly below any major facility thresholds. Before beginning the remedial activity, PTE will be estimated based on subsurface VOC concentrations to determine any required substantive requirements such as monitoring and emissions controls. Additionally, NJDEP exempts equipment or source operations being used in remediation processes completed under CERCLA from the major facility regulations (7:27-22.1). Therefore, based on current design plans, the NESHAPs will not be applicable for this project.

It is expected that fugitive emissions will be emitted from the onsite drying cells where excavated soils will be mixed with drying agents before disposal. Several sediment samples have been collected across the project area to identify the contaminants and concentrations present. The compounds historically detected in site sediments and their respective reporting thresholds are listed in Table 2.

TABLE 2  
NJDEP Reporting Thresholds for Contaminant Compounds Historically Detected in Site Sediment

Detected Compounds	NJDEP Reporting Thresholds <sup>b</sup>	Units	Notes
1,2,4-Trichlorobenzene	2,000	lbs/yr	
1,1-Dichloroethene	--		
1,2-Dichlorobenzene	--		
1,3-Dichlorobenzene	--		
1,4-Dichlorobenzene	600	lb/yr	
2-Butanone	2000	lb/yr	Listed as Methyl Ethyl Ketone
Acetone	--		
Benzene <sup>a</sup>	0.01	lbs/hr	
4-Methyl, 2-Pentanone	--		
Carbon Disulfide	200	lbs/yr	
Chlorobenzene	2000	lbs/yr	

TABLE 2  
NJDEP Reporting Thresholds for Contaminant Compounds Historically Detected in Site Sediment

Detected Compounds	NJDEP Reporting Thresholds <sup>b</sup>	Units	Notes
cis-1-2- Dichloroethene	--		
Chloromethane	2000	lbs/yr	Listed as Methyl Chloride
Cyclohexane	--		
Ethylbenzene	--		
Isopropyl Benzene	2000	lbs/yr	Listed as Cumene
Methyl Acetate	--		
Methyl Cyclohexane	--		
Methylene Chloride	2000	lbs/yr	
O-Xylene	2000	lbs/yr	
M-Xylene	2000	lbs/yr	
P-Xylene	2000	lbs/yr	
Toluene	2000	lbs/yr	
Tetra Chloroethene <sup>1</sup>	0.01	lbs/hr	
Trans-1,2-Chloroethene	--		
Trichloroethene <sup>1</sup>	0.01	lbs/hr	
Vinyl Chloride	40	lbs/yr	
Total VOCs	0.05	lbs/hr	
Each Toxic	0.01	lbs/hr	
Mercury	2	lbs/yr	

## Notes:

<sup>a</sup> The reporting threshold for these air contaminants are based on hourly, rather than annual, emissions. Because these air contaminants are a toxic subject to the reporting threshold in Table A, the reporting threshold for these contaminants is 0.01 pound per hour.

<sup>b</sup> The reporting thresholds are from NJAC 7:27-8, Appendix 1 Tables A and B

-- No threshold has been established for this contaminant.

In accordance with NJAC 7:27-8.2(C), any source operation that may emit one or more air contaminants, excluding CO<sub>2</sub>, directly or indirectly into the outdoor air and has the potential to emit any Group 1 or Group 2 Toxic contaminant (or a combination thereof) at a rate greater than 0.1 pound per hour (45.4 grams per hour) (NJAC 7:27-8.2(c)(2)) is a significant source (and therefore requires a preconstruction permit and an operating certificate). The list of compounds detected in site sediments, presented in the table above, includes toxic compounds; therefore, it is possible that the drying cells and site excavation may be considered to be a source operation.

To comply with New Jersey regulations that prohibit air pollution and establish ambient air quality standards (NJAC. 7:27-5 and N.J.A.C.7:27-13, respectively), a sampling and monitoring plan will be developed before the remedial activity begins. During remediation, periodic air monitoring and sampling will be conducted to verify that emissions from the sediment excavation and drying operation do not exceed the reporting thresholds set forth in NJAC 7:27-8 Appendix A and Appendix B (included above). If it is concluded that emissions are close to equaling the above-mentioned reporting thresholds, the emission reduction procedures described in a pre-established emission reduction plan, including temporarily covering the drying cell with a non-permeable layer, will be implemented.

## 3.2 Local Regulatory Requirements

### 3.2.1 Soil Erosion and Sediment Control Plan Certification

Through provisions handed down from the federal NPDES program, the State of New Jersey Soil Conservation Committee (P.L. 1975, Chapter 251, N.J.S.A. 4:24-39 et seq.) has developed Soil Erosion and Sediment Control Act Rules (N.J.A.C. 2:90-1), which implement soil and erosion control on land disturbance activities.

The Bergen County Soil Conservation District is responsible for reviewing and certifying SE&SC Plans, as mandated by the Soil Erosion and Sediment Control Act and in accordance with the state of New Jersey Department of Agriculture.

A Soil Erosion and Sediment Control Plan is required before the start of any project that disturbs more than 5,000 square feet in Bergen County. In New Jersey, plans for controlling erosion during construction must be designed in accordance with a comprehensive set of erosion control practices known as the Standards for Soil Erosion and Sediment Control. The standards contain more than 500 pages of BMPs for temporary and permanent erosion control.

#### ARAA Compliance Actions

The State Soil Conservation Committee has adopted rules and has developed standards as the technical basis for local soil conservation district certification of soil erosion and sediment control conservation plans (NJDOT, 1989). Recent standards developed by the NJDEP, in accordance with the Stormwater Management rules (N.J.A.C. 7:8), specify stormwater management standards that are mandatory for new major developments, and provide for the use of the *New Jersey Stormwater Best Management Practices Manual* (NJDOT, 2009b) as a guidance document.

Submission of an SE&SC Plan for site-specific erosion and sedimentation control prescribes the needed land treatment and related conservation and natural resource management measures deemed by the District to be practical and reasonable for the conservation, protection, and prevention of nonpoint source pollution (N.J.A.C. 2006).

All activities and BMPs will be installed in the proper sequence and maintained until permanent stabilization is established. The SE&SC Plan has been incorporated into the NTCRA design plans and is attached as Appendix B. This plan demonstrates that the NTRCRA is in compliance with SE&SC requirements.

### 3.2.2 New Jersey Meadowlands Commission Zoning Rules

The New Jersey Meadowlands Commission (NJMC) is the zoning and planning agency for a 30.4-square-mile area along the Hackensack River. The site is encompassed by this area, and therefore the substantive requirements of the NJMC zoning rules are applicable to the NTCRA project.

#### ARAR Compliance Actions

The Hackensack Meadowlands Reclamation and Development Act (N.J.S.A. 13:17-1 et seq.), effective January 13, 1969, recognized the Meadowlands of the Lower Hackensack River as “a land resource of incalculable opportunity for new jobs, homes and recreational sites.” The Act cited “[the Meadowlands’] strategic location in the heart of a vast metropolitan area with urgent needs for more space for industrial, commercial, residential, and public recreational and other uses.” Zoning application requirements for submittal to the Hackensack Meadowlands District are outlined in Section 19:4-3.1(a).

The zone boundaries are shown on the Hackensack Meadowlands District Official Zoning Map. The site is zoned RA-2, “Redevelopment Area Paterson Plank Road.” Applicable use and bulk requirements for an area within a Redevelopment Area are established on a case-by-case basis (§ 19:4-3.9). For permanent redevelopment, a land use management zoning approval would be required; however, since there are not permanent redevelopment plans included in the NTCRA this requirement is not applicable to this project.

## SECTION 4

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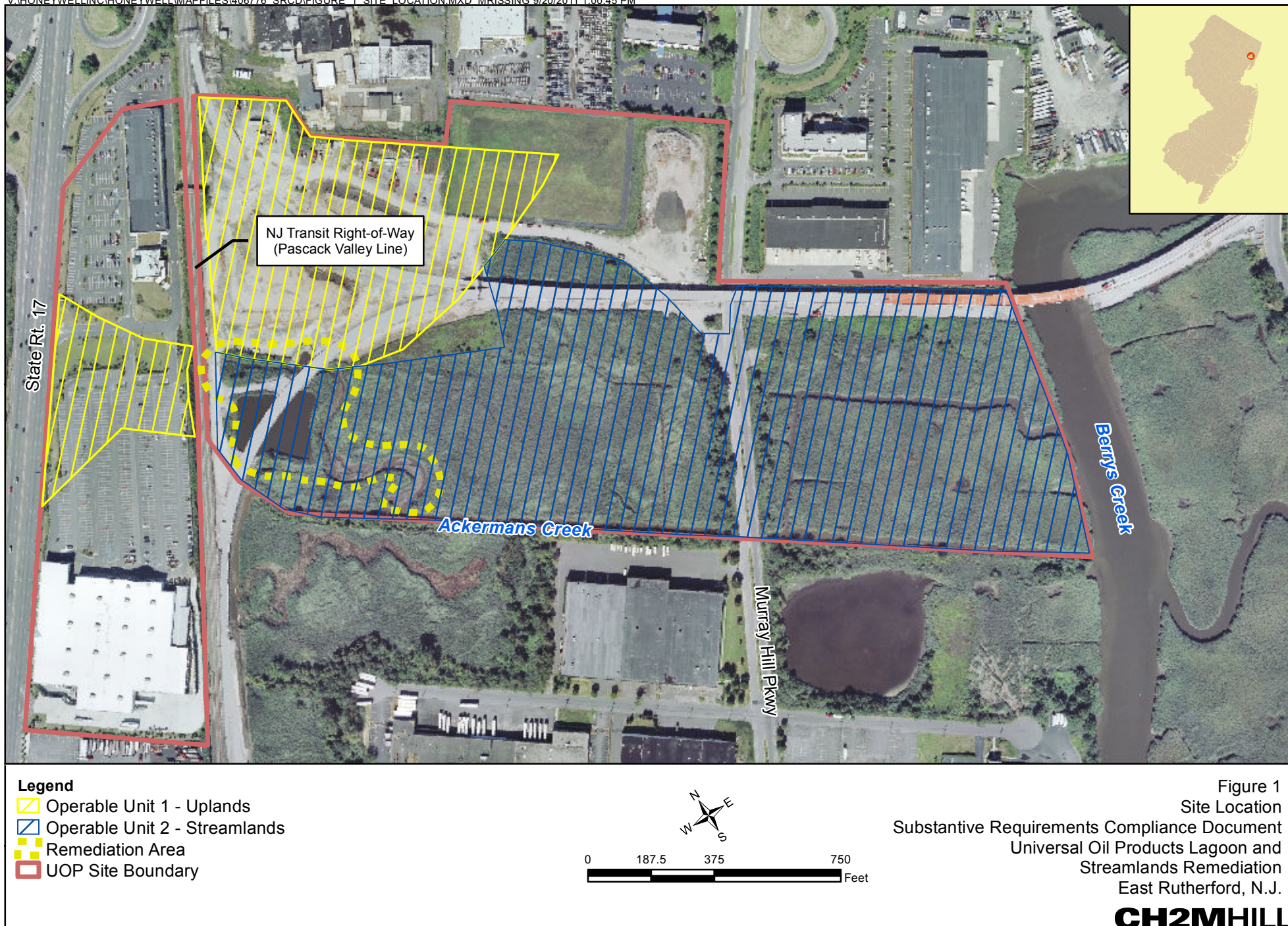
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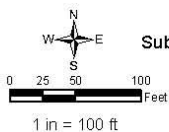
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**Legend**

Remediation Areas



**Figure 2**  
Remediation Areas  
Substantive Requirements Compliance Document  
Universal Oil Products Lagoon and  
Streamlands Remediation  
East Rutherford, N.J.

**CH2MHILL**



## Appendix A

### Wetlands Site Figure

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**Appendix B**  
**Soil Erosion and Sediment Control Plan**

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GENERAL SITE NOTES:

1.

SOURCE OF THE TOPOGRAPHY SHOWN ON THE CIVIL PLANS WERE CREATED FROM SURVEY DATED 9/20/10 PROVIDED BY VARGO ASSOCIATES. BATHYMETRIC SURVEY AND FEATURE DELINEATION WAS PROVIDED BY SURVEY DATED 12/3/09 PERFORMED BY WEBER SURVEYING. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.

2.

SOURCE OF THE CLAY LAYER SHOWN IN THE CROSS SECTIONS WAS CREATED USING INFORMATION GATHERED FROM SAMPLING DONE BY AQUA SURVEY AND SUPPLEMENTED BY SAMPLING DONE PREVIOUSLY BY LOUIS BERGER. ACTUAL ELEVATION OF CLAY MAY VARY FROM THOSE SHOWN ON THESE CROSS SECTIONS. THE CONTRACTOR SHALL VERIFY CLAY LAYER ELEVATIONS AND ADJUST WORK PLAN ACCORDINGLY DURING EXCAVATION. CONTRACTOR SHALL ALSO PROVIDE POST CAPPING SURVEY.

3.

EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.

4.

HORIZONTAL DATUM: NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD 83.

5.

VERTICAL DATUM: NAVD 88.

6.

MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.

7.

FOR LOCATION OF CONTROL POINT ON STRUCTURES, SEE G-03.

8.

COORDINATES AND DIMENSIONS SHOWN FOR ROADWAY IMPROVEMENTS ARE TO FACE OF CURB OR EDGE OF PAVEMENT.

9.

STAGING AREA SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND ON-SITE STORAGE OF MATERIALS.

10.

PROVIDE TEMPORARY FENCING AND SIGNAGE AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES. THE CONTRACTOR IS TO INSTALL NJT APPROVED SIGNAGE BOUNDING THE UOP NTCRA REMEDIAL AREA PROVIDING "ENVIRONMENTAL CAUTIONS", SPECIFIC HONEYWELL/CH2M HILL/CONTRACTOR

11.

POINTS OF CONTACT INCLUDING 24/7 PHONE CONTACT INFORMATION.

12.

ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.

13.

SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.

14.

CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.

15.

CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE.

16.

CLEAR AND GRUB IN AREAS OF EXCAVATION PRIOR TO START OF WORK.

17.

POWER IS NOT AVAILABLE ON SITE. PROVIDING ELECTRICAL POWER NEEDED IS THE RESPONSIBILITY OF THE CONTRACTOR.

18.

CONTRACTOR IS RESPONSIBLE FOR ARRANGING ANY WATER METER/TAPPING OF EXISTING WATER MAIN ON SITE.

19.

EXISTING UNDERGROUND UTILITIES SHOWN HAVE BEEN OBTAINED FROM EDWARDS & KELCEY. FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION. OTHER UTILITIES MAY BE PRESENT BUT NOT IDENTIFIED. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. FOLLOW NEW JERSEY STATE LAW, CALL NEW JERSEY UTILITIES ASSOCIATION BEFORE YOU DIG, DIAL 8-1-1 OR 1-800-272-1000

SOIL EROSION & SEDIMENT CONTROL NOTES:

1.

THE CONTRACTOR MUST NOTIFY THE DISTRICT IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:

A.

THE REQUIRED PRE-CONSTRUCTION MEETING.

B.

FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.

C.

PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURES.

D.

PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.

E.

PRIOR TO FINAL ACCEPTANCE.

2.

CLEAR EXISTING VEGETATION FROM PROPOSED LOCATIONS OF EXCAVATION ACTIVITIES. INCORPORATE CLEARED VEGETATION INTO SOLIDIFIED SEDIMENTS AND SOILS FOR DISPOSAL.

3.

INSTALL TIDE GATE IN ACKERMANS CREEK, SEE SHEET C-01 FOR LOCATION.

4.

INSTALL AND MAINTAIN SILT CURTAINS IN THE EXCAVATION AREAS AS SHOWN ON THE DRAWINGS.

5.

INSTALL SEDIMENT BARRIERS AROUND THE STOCKPILE AREAS

6.

PUMP FREE WATER FROM THE DEWATERING PAD TO THE TEMPORARY WATER TREATMENT SYSTEM VIA AN 8" DIAMETER HDPE PIPE

7.

PLACE EXCAVATED MATERIALS ON THE TEMPORARY STAGING AND STOCKPILING AREA FOR SLACK-DRYING AND TREATMENT.

8.

PREPARE SEDIMENT FOR TREATMENT, INCLUDING REMOVING OVERSIZE DEBRIS AND MIXING WET AND DRY FRACTIONS AS NEEDED.

9.

MIX THE SEDIMENT WITH POZZOLANIC OR OTHER ADDITIVES FOR SOLIDIFICATION AND STABILIZATION OF DEWATERED SEDIMENTS TO MEET EPA PAINT FILTER TEST AND TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) CRITERIA.

10.

LOAD OUT TREATED MATERIAL IN CONTRACTOR SUPPLIED TRUCKS FOR TRANSPORT TO A HONEYWELL-APPROVED DISPOSAL FACILITY. DISPOSAL FEES INCLUDING ALL APPLICABLE TAXES TO BE PAID BY HONEYWELL DIRECTLY. CONTRACTOR TO PROVIDE ALL COPIES OF MANIFESTS, BILLS OF LADING AS PART OF PROJECT DOCUMENTATION.

11.

EXPENDED TREATMENT MEDIA SUCH AS SAND AND CARBON FROM PROCESSING OF GROUNDWATER AND SURFACE WATER RUNOFF CAN BE PLACED WITH THE SOLIDIFIED SEDIMENT FOR OFFSITE DISPOSAL.

12.

ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY (NJ STANDARDS), AND WILL BE INSTALLED IN PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT STABILIZATION IS ESTABLISHED.

SOIL EROSION & SEDIMENT CONTROL NOTES (CONT'D) :

13.

THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR OR BERGEN COUNTY INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE BERGEN COUNTY INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM BERGEN COUNTY INSPECTOR AND AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY AND BERGEN COUNTY APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.

14.

THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADWAYS. THE CONTRACTOR SHALL INSTALL A BLANKET TO BE COMPOSED OF NJDOT NO. 2 CRUSHED STONE, 6" THICK, WILL BE AT LEAST 30' X 100' AND SHOULD BE UNDERLAIN WITH A SUITABLE SYNTHETIC SEDIMENT FILTER FABRIC AND MAINTAINED. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.

15.

ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.

16.

SOIL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS, INCLUDING AFTER EVERY STORM EVENT.

17.

MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT EXCEED 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.

18.

ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND MULCHING. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREA WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND BOUND IN ACCORDANCE WITH THE NJ STANDARDS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).

19.

IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE NJ STANDARDS.

20.

PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH:

-TOPSOIL - UNIFORM APPLICATION TO A DEPTH OF 5" (UNSETTLED)

-LIME - 90 LBS./1,000 SF GROUND LIMESTONE; FERTILIZER - 11 LBS./1,000 SF, 10-20-10 OR EQUIVALENT WORKED INTO THE SOIL A MINIMUM OF 4"

-SEED - TURF TYPE TALL FESCUE (BLEND OF 3 CULTIVARS) 150 LBS./ACRE (3.5 LBS./1,000 SF) OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH 1 AND NOVEMBER 15

-MULCH - SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS./1,000 SF TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).

WHEN PROPERTY IS BROUGHT TO FINISHED GRADE AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND MULCH SHALL BE APPLIED:

-LIME - 90 LBS./1,000 SF GROUND LIMESTONE; FERTILIZER - 11 LBS./1,000 SF, 10-20-10 OR EQUIVALENT WORKED INTO THE SOIL A MINIMUM OF 4"

-SEED - PERENNIAL RYEGRASS 40 LBS./ACRE (1LB./1,000 SF) OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1

-MULCH - SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS./1,000 SF TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER)

21.

THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUN-OFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.

22.

PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIP-RAP OR BY OTHER APPROVED STABILIZATION MEASURES.

23.

STOCKPILES ARE NOT TO BE LOCATED WITHIN 50' OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHALL BE CONTAINED BY A HAYBALE SEDIMENT BARRIER OR SILT FENCE.

24.

DRIVEWAYS MUST BE STABILIZED WITH NJDOT NO. 2 CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.

25.

CATCH BASIN INLETS WILL BE PROTECTED WITH AN INLET FILTER DESIGNED IN ACCORDANCE WITH SECTION 30-1 OF THE NJ STANDARDS.

26.

STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.

27.

SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

28.

PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIP-RAP OR BY OTHER APPROVED STABILIZATION MEASURES.

29.

DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT CONTROL BAG OR OTHER APPROVED FILTER IN ACCORDANCE WITH SECTION 14-1 OF THE NJ STANDARDS.

30.

DUST SHALL BE CONTROLLED VIA THE APPLICATION OF WATER, CALCIUM CHLORIDE OR OTHER APPROVED METHOD IN ACCORDANCE WITH SECTION 16-1 OF THE NJ STANDARDS.

31.

SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION THAT EXISTS OR IS UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.

SOIL EROSION & SEDIMENT CONTROL NOTES (CONT'D) :

32.

ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.

33.

SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.

34.

SEDIMENT REMOVED FROM TRAPS AND BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND, OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT OR PORTABLE SEDIMENT TANK MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.

35.

ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH AN APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE FROM THE SITE.

36.

WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENT. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

37.

OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY MUST HAVE PRIOR APPROVAL BY THE DISTRICT AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES; OTHERWISE APPROVAL MUST BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

38.

SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER, EXTREME CARE MUST BE TAKEN TO PREVENT RUNOFF FROM UNSTABILIZED AREAS ENTERING THE EXCAVATION AREA DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.

39.

TREES TO REMAIN AFTER CONSTRUCTION ARE TO BE PROTECTED WITH A SUITABLE FENCE INSTALLED AT THE DRIP LINE OR BEYOND IN ACCORDANCE WITH SECTION 9-1 OF THE NJ STANDARDS.

40.

THE PROJECT OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFF-SITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

41.

ANY REVISION TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION IN THE FIELD.

42.

THE BERGEN COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED, **IN WRITING**, AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBANCE: Bergen County SCD, 700 Kinderkamack Road, Suite 106, Oradell, NJ 07649. Tel: 201-261-4407; Fax: 201-261-7573

43.

THE OWNER MUST OBTAIN A DISTRICT ISSUED REPORT OF COMPLIANCE PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY. THE DISTRICT REQUIRES AT LEAST ONE WEEK'S NOTICE TO FACILITATE THE SCHEDULING OF ALL REPORT OF COMPLIANCE INSPECTIONS. ALL SITE WORK MUST BE COMPLETED, INCLUDING TEMPORARY/PERMANENT STABILIZATION OF ALL EXPOSED AREAS, PRIOR TO THE ISSUANCE OF A REPORT OF COMPLIANCE BY THE DISTRICT.

44.

THE DISTRICT INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.

45.

THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE PROJECT SITE THROUGHOUT CONSTRUCTION.

46.

SITE INFORMATION

A. TOTAL AREA OF SITE

78.11

ACRES

B. AREA DISTURBED

2.51

ACRES

D. TOTAL CUT

11,260

CUBIC YARDS

E. TOTAL FILL

10,030

CUBIC YARDS

F. OFF-SITE WASTE/BORROW AREA LOCATION

PROJECT SAMPLING REQUIREMENTS

1.

SAMPLING OF SOLIDIFIED SEDIMENT AND SOIL WILL BE PERFORMED BY ENGINEER AND IS OUTSIDE THE SCOPE OF SERVICES FOR THE CONTRACTOR.

2.

THERE SHALL BE POST EXCAVATION SAMPLING OF CHANNELS AND SIDEWALLS OF THE NORTHERN CHANNEL, WESTERN LAGOON SECTION, EASTERN LAGOON SECTION, SOUTHERN AND EASTERN BERMS, SOUTHERN CHANNEL, EASTERN CHANNEL, AND EASTERN CHANNEL MEANDER TO BE COMPLETED BY OTHERS.

3.

CONTRACTOR IS RESPONSIBLE FOR ALL DECONTAMINATION SAMPLING THAT MAY BE REQUIRED FOR ANY PROCESS OR EXCAVATION EQUIPMENT THAT IS UTILIZED IN THE EXECUTION OF THE PROJECT.

1717 ARCH ST., SUITE 4400  
PHILADELPHIA, PA 19103  
PH (215) 563-4420 FAX (215) 563-3828  
EB 0000072 AA 001992

CH2MHILL

GENERAL  
UOP NON-TIME CRITICAL REMOVAL ACTION  
GENERAL  
NOTES

N/A

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.  
0 1"

DATE JULY 2011

PROJ 421919

DWG G-02

SHEET 2

1717 ARCH ST., SUITE 4400  
PHILADELPHIA, PA 19103  
PH (973) 455-2000 FAX (973) 455-4807

Honeywell

101 COLUMBIA RD.  
MORRISTOWN, NJ 07962  
PH (973) 455-2000 FAX (973) 455-4807

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

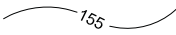

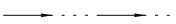
























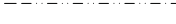


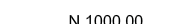
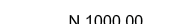








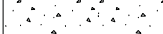

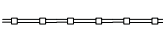






PLOT DATE: 7/15/2011

PLOT TIME: 9:59:33 AM

## D

INITIAL DISCUSSIONS WITH NJT ON 7/11/10 FOCUSED ON CONCERNS PERTAINING TO RAIL SAFETY AND IMPACT TO NJT RAIL SERVICE ALONG THE PASCACK VALLEY (PV) RAIL LINE AND THE NEW P-B CONNECTING RAIL LINE INTO THE NJSEA COMPLEX. SPECIFIC AREAS THAT NJ TRANSIT HAS ASKED THAT THE UOP NTCRA TAKE INTO CONSIDERATION DURING IMPLEMENTATION PHASES TO WHICH THE CONTRACTOR WILL BE RESPONSIBLE FOR ARE:

- ## PIPING ABBREVIATIONS

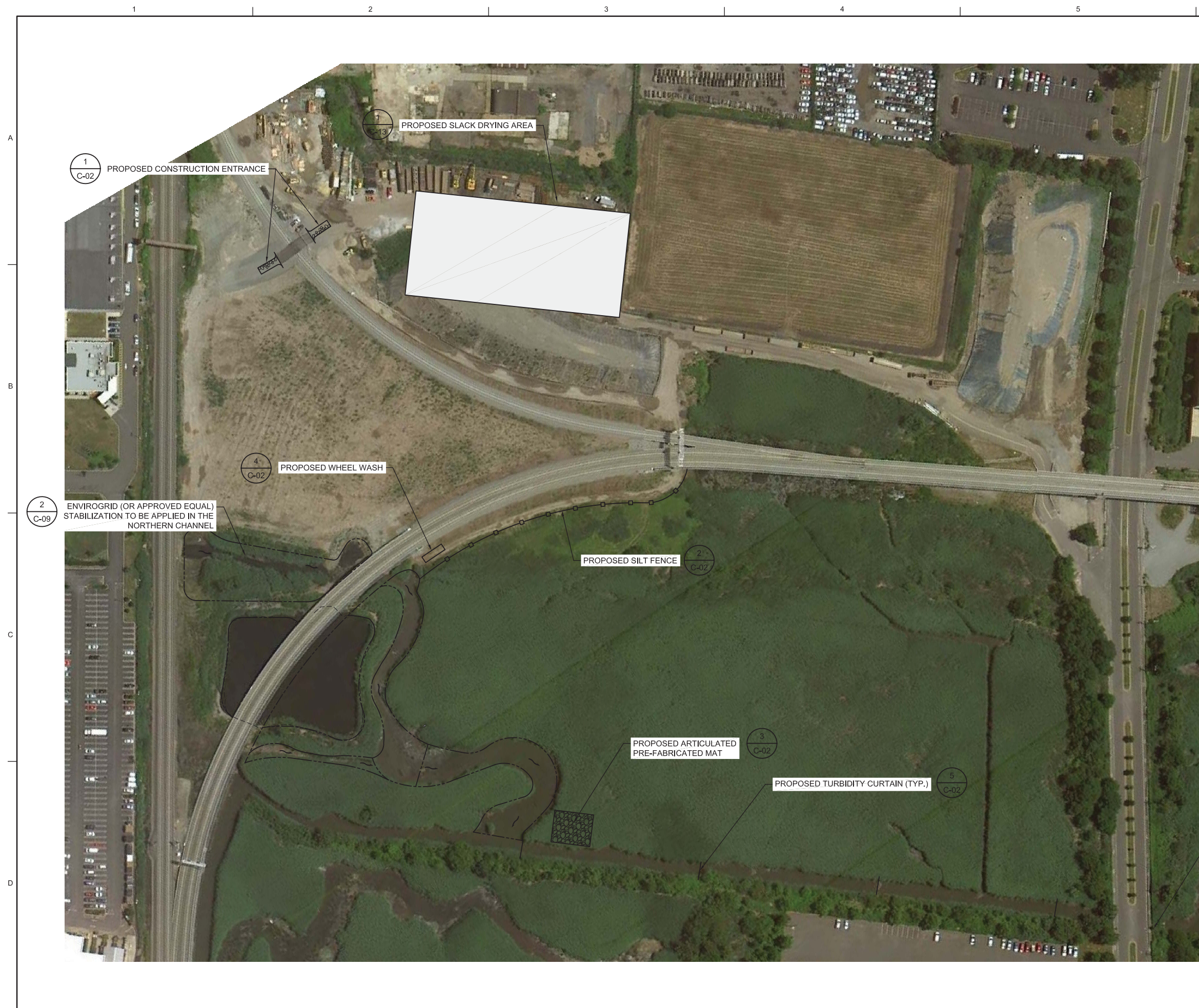
EXISTING	THIS CONTRACT	
		SPOT ELEVATION
		CONTOUR LINE
		EMBANKMENT AND SLOPE
		DRAINAGWAY OR DITCH
	 OR 	CATCH BASIN OR INLET
	 OR 	SIGN
	 OR 	MANHOLE
		ELECTRICAL MANHOLE
		ELECTRIC HANDHOLE
		POST OR GUARD POST
		UTILITY POLE
		LIGHT POLE
		BENCH MARK
		SURVEY CONTROL POINT OR POINT OF INTERSECTION
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		STAGING OR WORK AREA LIMITS
		STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
 OR 	 OR 	STRUCTURE, BUILDING OR FACILITY
		ASPHALT CONCRETE PAVEMENT
		GRAVEL SURFACING
		CONCRETE PAVEMENT
		GUARD RAIL
		CHAIN LINK FENCE
		WIRE FENCE
		CULVERT

<u>EXISTING</u>	<u>THIS CONTRACT</u>	
		NOMINAL PIPE DIAMETER
		PIPE USE IDENTIFICATION
		PIPING $< 30"$ DIAMETER
		PIPING $\geq 30"$ DIAMETER
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED

COVER PRACTICES	SYMBOL
CONSTRUCTION ENTRANCE	
CHECK DAMS	
OUTLET PROTECTION / RIPRAP	

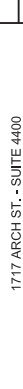
1. THIS IS A STANDARD LEGEND SHEET.  
THEREFORE, NOT ALL OF THE INFORMATION  
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NOTES:

1. THIS DRAWING REPRESENTS THE MINIMUM REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES THE CONTRACTOR SHALL PROVIDE. REFER TO PROJECT SOIL EROSION AND SEDIMENT CONTROL PLAN FOR ADDITIONAL REQUIREMENTS.
2. COCONUT JUT TO BE USED FOR SLOPE STABILIZATION.

<div> <div>  </div> <div> <p>CIVIL</p> <p>UOP NON-TIME CRITICAL REMOVAL ACTION EROSION AND SEDIMENT CONTROL PLAN</p> </div> </div>	<p>1717 ARCH ST. - SUITE 4400 PHILADELPHIA, PA 19103 PH (215) 563-4220 FAX (215) 563-3828 EB 0000072 AA 001892</p>		<p><b>Honeywell</b></p> <p>101 COLUMBIA RD. MORRISTOWN, NJ 07962 PH (973) 455-2000 FAX (973) 455-4607</p>		<p>1717</p>	
	<p>1" = 80'</p> <p>VERIFY SCALE</p> <p>BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"</p>		<p>NO. DATE</p> <p>NO. DATE</p> <p>NO. DATE</p> <p>NO. DATE</p> <p>NO. DATE</p> <p>NO. DATE</p> <p>NO. DATE</p>		<p>REVISION</p> <p>CHK</p> <p>DR</p> <p>APVD</p>	
<p>DATE JULY 2011</p> <p>PROJ 421919</p> <p>DWG C-01</p> <p>SHEET</p>			<p>S. GODIN</p> <p>M. HOLMQUIST</p> <p>M. HOLMQUIST</p>		<p>R. TRAVER</p>	



Appendix C  
New Jersey Surface Water Quality Standards

## Appendix C: Effluent Limitations

Reference: NJAC 7:14A-12: Appendix B Effluent Standards for Site Remediation Projects  
(Accessed via [http://www.state.nj.us/dep/dwg/7\\_14a/Sub12rule.pdf](http://www.state.nj.us/dep/dwg/7_14a/Sub12rule.pdf) on September 21, 2011)

Parameter	Unit	Effluent Limitations Saline Estuarine Waters	
		Monthly Average	Daily Maximum
TSS	mg/L	N/A	40
<b>Volatile Compounds</b>			
Acrolein	µg/L	NL	100
Acrylonitrile	µg/L	NL	50
Benzene	µg/L	37	136
Bromoform	µg/L	29	58
Carbon Tetrachloride	µg/L	NL	8.8
Chlorobenzene	µg/L	15	28
Chlorodibromomethane	µg/L	NL	14
Chloroethane	µg/L	104	268
Chloroform	µg/L	21	46
Dichlorobromomethane	µg/L	NL	12
1,1-Dichloroethane	µg/L	22	59
1,2-Dichloroethane	µg/L	68	211
1,1-Dichloroethylene	µg/L	16	25
1,2-Dichloropropane	µg/L	153	230
1,3-Dichloropropylene	µg/L	29	44
Ethylbenzene	µg/L	32	108
Methyl Bromide	µg/L	20	40
Methyl Chloride	µg/L	86	190
Methylene Chloride	µg/L	40	89
1,1,2,2- Tetrachloroethane	µg/L	NL	10
Tetrachloroethylene	µg/L	22	56
Toluene	µg/L	26	80

1,2-Trans-Dichloroethylene	µg/L	21	54
1,1,1-Trichloroethane	µg/L	21	54
1,1,2-Trichloroethane	µg/L	21	54
Trichloroethylene	µg/L	21	54
Vinyl Chloride	µg/L	104	268
<b>Acid Compounds</b>			
2-Chlorophenol	µg/L	31	98
2,4 Dichlorophenol	µg/L	39	112
2,4 Dimethylphenol	µg/L	18	36
4,6 Dinitro-O-Cresol	µg/L	78	277
2,4 Dinitrophenol	µg/L	71	123
2-Nitrophenol	µg/L	41	69
4-Nitrophenol	µg/L	72	124
Pentachlorophenol	µg/L	NL	30
Phenol	µg/L	15	26
2,4,6 Trichlorophenol	µg/L	NL	20
<b>Base/Neutral Compounds</b>			
Anthracene	µg/L	22	59
Benzinide	µg/L	NL	50
Benzo (a) Anthracene	µg/L	NL	10
Benzo (a) Pyrene	µg/L	NL	20
Benzo (b) fluoroanthene	µg/L	NL	10
Benzo (k) fluoroanthene	µg/L	NL	20
Bis (2-Chloroethyl) Ether	µg/L	NL	10
Bis (2-Chloroisopropyl) Ether	µg/L	301	757
Bis (2-Ethylhexyl) Phthalate	µg/L	59	118
Butyl Benzyl Phthalate	µg/L	NL	24
Chrysene	µg/L	NL	20
Dibenzo (a,h) Anthracene	µg/L	NL	20
1,2 Dichlorobenzene	µg/L	77	163

1,3 Dichlorobenzene	µg/L	31	44
1,4 Dichlorobenzene	µg/L	NL	28
3,3 Dichlorobenzidine	µg/L	NL	60
Diethyl Phthalate	µg/L	81	203
Dimethyl Phthalate	µg/L	19	47
Di-N-Butyl Phthalate	µg/L	27	57
2,4 Dinitrotoluene	µg/L	NL	18.2
2,6 Dinitrotoluene	µg/L	255	641
Fluoroanthene	µg/L	25	68
Fluorene	µg/L	22	59
Hexachlorobenzene	µg/L	NL	10
Hexachlorobutadiene	µg/L	20	49
Hexachlorocyclopentadiene	µg/L	NL	1800
Hexachloroethane	µg/L	21	54
Indeno (1,2,3-cd) Pyrene	µg/L	NL	20
Isophorone	µg/L	NL	20
Naphthalene	µg/L	22	59
Nitrobenzene	µg/L	27	68
N-Nitrosodimethylamine	µg/L	NL	20
N-Nitrosodiphenylamine	µg/L	NL	20
Phenanthrene	µg/L	22	59
Pyrene	µg/L	25	67
1,2,4 Trichlorobenzene	µg/L	68	140
<b>Metals and Cyanide</b>			
Arsenic	µg/L	50	100
Cadmium	µg/L	50	100
Chromium	µg/L	50	100
Copper	µg/L	50	100
Iron	µg/L	1000	2000
Lead	µg/L	50	100

Mercury	µg/L	NL	1
Nickel	µg/L	50	100
Selenium	µg/L	50	100
Silver	µg/L	25	50
Zinc	µg/L	100	200
Cyanide	µg/L	100	200
<b>Pesticides and PCBs</b>			
Aldrin	µg/L	NL	0.04
Alpha-BHC	µg/L	NL	0.02
Beta-BHC	µg/L	0.46	0.92
Gamma-BHC (Lindane)	µg/L	NL	0.03
Chlordane	µg/L	NL	0.2
4,4 DDT	µg/L	NL	0.06
4,4 DDE	µg/L	NL	0.04
4,4 DDD	µg/L	NL	0.04
Dieldrin	µg/L	NL	0.03
Alpha-Endosulfan	µg/L	NL	0.02
Beta-Endosulfan	µg/L	NL	0.04
Endosulfan Sulfate	µg/L	2	4
Endrin	µg/L	NL	0.04
Endrin Aldehyde	µg/L	0.81	1.62
Heptachlor	µg/L	NL	0.02
Heptachlor Epoxide	µg/L	NL	0.4
Toxaphene	µg/L	NL	1
PCBs 1242, 1254, 1221	µg/L	NL	0.5
PCBs 1232, 1248, 1260, 1016	µg/L	NL	0.5